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ATMOSPHERIC TRANSMITTANCE, 7-30 MUM: ATTENUATION OF CO2 LASER RADIATION

R. A. McClatchey, et al

Air Force Cambridge Research Laboratories
L. G. Hanscom Field, Massachusetts

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AIR FORCE CAMBRIDGE RESEARCH LABORATORIES
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Atmospheric Transmittance, 7-30 μm: Attenuation of CO_2 Laser Radiation

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AIR FORCE SYSTEMS COMMAND
United States Air Force

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13. ABSTRACT

High resolution transmittance curves are presented for the spectral region 320-1400 wavenumbers. These spectra are useful as a guide for selecting laser wavelengths for atmospheric propagation studies in this spectral region. In addition, this report provides specific information concerning the attenuation coefficients of 41 CO_2 rotational laser lines in the 10.4 micrometer band system ($\nu_3 \rightarrow \nu_1$). Charts for predicting the atmospheric attenuation of the CO_2 laser lines are provided for each of five climatological model atmospheres and two haze models.

The current report extends the work presented in two earlier reports on (1) CO laser attenuation in the 1400-2120 cm^{-1} (4.72-7.14 μm) region: AFCRL-71-0370 and (2) HF and DF laser attenuation in the 2120-3740 cm^{-1} (2.67-4.72μm) region: AFCRL-72-0312.

This report, when combined with the two previous reports described above, provides synthetic spectra for the entire region from 2.67-31.25μm.

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Atmospheric Transmittance, 7-30μm: Attenuation of CO_2 Laser Radiation

1. INTRODUCTION

Theoretical investigations of the attenuation of laser emission through the atmosphere require a knowledge of the molecular absorption of the atmosphere at very high spectral resolution. Absorption line widths of atmospheric molecules are typically of the order of 0.1 cm^{-1} at one atmosphere pressure and decrease with decreasing pressure. Thus, from the point of view of computations, a spectral resolution of better than 0.1 cm^{-1} is required. In two previous reports, calculation of synthetic atmospheric spectra were made for a spectral resolution of 0.01 cm^{-1}. The resulting spectra can thus be considered as representing an infinite resolution spectrum, limited only by the real width of the atmospheric absorption lines. One of the previous reports (McClatchey, 1971) provided spectra covering the region of CO emission - 1400-2120 cm^{-1}. A second report (McClatchey and Selby, 1972) provided spectra covering the region of HF and DF emission from 2120-3740 cm^{-1}.

In addition to the "infinite" resolution spectra provided in these reports, specific laser attenuation charts have been provided for a great number of laser wavelengths in the CO, HF, and DF systems. Although it is useful to have these laser attenuation coefficients immediately available, we have found the "infinite" resolution spectra of great value for a large number of purposes. For example,

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these spectra can be used directly as a guide to selecting other lasers which have lines that lie in the spectral interval in question.

Because of the growing interest in finding relatively transparent atmospheric windows for propagating new laser emission lines through the atmosphere, it was decided to extend the calculations reported earlier to longer wavelengths including three significant atmospheric windows centered near 9, 11, and 22 micrometers. The spectral region covered in this report is from 320-1400 cm^{-1} (about 7.14-31.25μm). The molecular absorption responsible for atmospheric absorption in this region includes the wing of the 6.3μm band of water vapor (Benedict and Calfee, 1967), the ν_4 band of methane centered near 7.7μm (Kyle, 1968), the ozone bands near 9.6μm and 14.3μm (Clough and Kneizys, 1965; McCaa and Shaw, 1967), the important CO_2 band centered near 15μm (Drayson and Young, 1967), the rotational water vapor band (see Goody, 1964, p. 184), the 9.4 and 10.4μm bands of CO_2 (Burch, 1962), and weak bands of nitrous oxide located near 8.5μm and 17μm (Burch et al, 1971 and Burch et al, 1962). In addition to the rotational lines associated with water vapor, carbon dioxide, ozone, nitrous oxide and methane, at low levels in the atmosphere there is the important water vapor continuum of particular importance in the 8-13μm region and between 16μm and 30μm (Burch, 1970 and Bignell, 1970). Absorption by each of the molecules mentioned here has been included in the calculations of synthetic spectra provided below.

In addition to molecular absorption, three other sources of attenuation should be considered (McClatchey et al, 1971): molecular (or Rayleigh) scattering, aerosol scattering, and aerosol absorption. Attenuation due to molecular scattering (σ_{1n}) is easily computed and is found to be less than 10^{-6} per km at all altitudes and is thus completely negligible. Aerosol attenuation (both absorption and scattering) can be significant, so examples of this attenuation for two specific aerosol models have been included (see Figures 1a and 1b). It should be noted that aerosol attenuation is a very slowly varying function of frequency and, therefore, provides a quasi-continuum attenuation over the whole spectral range of interest, whereas the molecular absorption is highly frequency-dependent. Thus, molecular absorption determines the relative "windows" where the transmittance of a laser beam is greatest.

An attenuation chart was previously constructed for a variety of atmospheric models for the P20 line of the 10.4μm CO_2 band (see McClatchey et al, 1971). In this report we have specifically included attenuation coefficient charts for all P-branch lines of this vibrational band from P2-P40 and all R-branch lines from R0-R40. Although much of the work done with CO_2 lasers has utilized the P20 line, many other lines have been observed (Patel, 1964; Howe, 1965) and there is a growing interest in developing lasers in which different lines can be isolated.

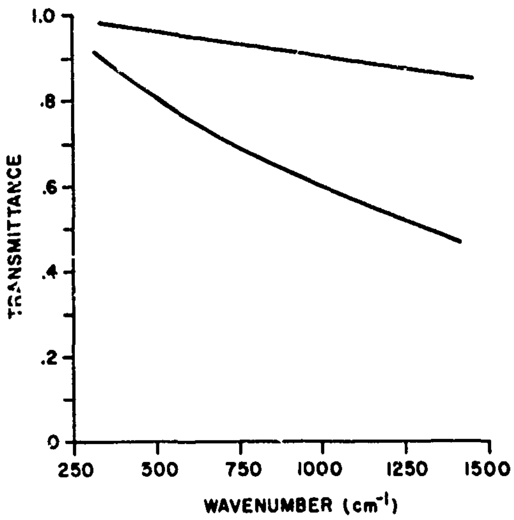

Figure 1a. Atmospheric Transmittance due to Aerosols Through a 10-km Horizontal Path at Sea Level in a "clear" and a "hazy" Atmosphere

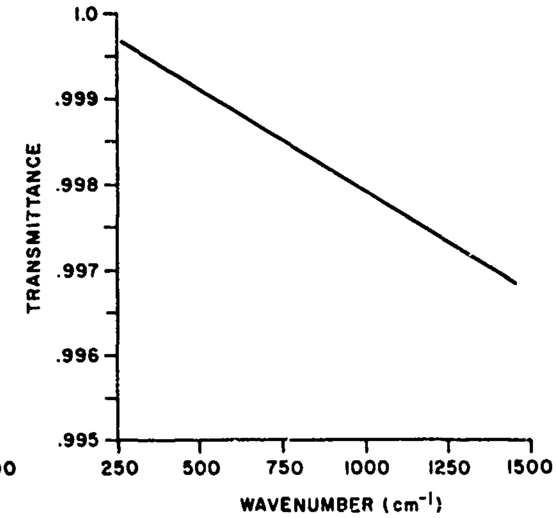

Figure 1b. Atmospheric Transmittance due to Aerosols Through a 10-km Horizontal Path at an Elevation of 12 km

2. CO_2 LASER EMISSION FREQUENCIES

Since the frequencies of the atmospheric absorption lines are known quite accurately (± 0.01 cm^{-1}), and since CO_2 absorption in the atmosphere is a significant portion of the total attenuation, the laser emission frequencies were assumed to be identical to the CO_2 absorption line frequencies. The frequencies of the CO_2 lines are presented in Table 1. Computations of atmospheric attenuation were made for each line appearing in Table 1. The column in Table 1 associated with each laser frequency gives the attenuation per kilometer computed on the basis of the Midlatitude Winter Model (see Section 3). This gives a good idea of the relative atmospheric attenuation for all lines.

3. ATMOSPHERIC MODELS

The atmospheric models used in the computations have been fully described by McClatchey et al (1971), and so only a brief sketch will be provided here. Five model atmospheres for pressure, temperature, H_2O, and O_3 distributions have been used and are referred to as Tropical, Midlatitude Summer, Midlatitude Winter, Subarctic Summer, and Subarctic Winter. They refer to models of the same names defined in the Handbook of Geophysics and Space Environment

Table 1. CO_2 Laser Frequencies for which Attenuation Coefficients Have Been Computed. The Attenuation Coefficients included in this Table Refer to Molecular Absorption through a 1-km Horizontal Path at Sea Level

Rot. I.D.	Frequency (cm^{-1})	k_{mw}
P40	924.970	0.0359
P38	927.004	0.0423
P36	929.013	0.0584
P34	930.997	0.0536
P32	932.956	0.0650
P30	934.890	0.0737
P28	936.800	0.0852
P26	938.684	0.0853
P24	940.544	0.0955
P22	942.380	0.1021
P20	944.190	0.0958
P18	945.976	0.1223
P16	947.738	0.0747
P14	949.476	0.1101
P12	951.189	0.1058
P10	952.877	0.1008
P8	954.541	0.0817
P6	956.181	0.0615
P4	957.797	0.0498
P2	959.388	0.0753
R0	961.729	0.0347
R2	963.260	0.0401
R4	964.765	0.0502
R6	966.247	0.0614
R8	967.704	0.0663
R10	969.136	0.0714
R12	970.544	0.0788
R14	971.927	0.0796
R16	973.285	0.0799
R18	974.618	0.0755
R20	975.927	0.2140
R22	977.210	0.0871
R24	978.468	0.0641

Table 1. CO_2 Laser Frequencies for which Attenuation Coefficients Have Been Computed. (Cont)

Rot. I.D.	Frequency (cm^{-1})	k_{mw}
R26	979.701	0.0579
R28	980.909	0.0529
R30	982.091	0.0587
R32	983.248	0.0436
R34	984.379	0.0439
R36	985.484	0.0357
R38	986.563	0.0328
R40	987.616	0.0306

(Valley, 1965). Because the major effect these five different models have on the computations in this report is due to the differences in water vapor distribution, Table 3 indicates the water vapor amounts in a 10-km sea level path, a 10-km horizontal path at 12-km altitude, and in a vertical path through the entire atmosphere. The water vapor distribution in all models is identical above 11-km altitude.

In addition to the five models described above, computations were made for two aerosol models (see Figures 1a and 1b). The details of these models are also described by McClatchey et al (1971). Briefly, the two models describe a "clear" and "hazy" atmosphere corresponding to a ground level visibility of 23 and 5 km, respectively. The aerosol size distribution function for both models is the same at all altitudes and similar to one suggested by Deirmendjian (1963) for continental haze. It differs from Deirmendjian's model "C" in that the large particle cut-off has been extended from 5μm to 10μm.

The refractive index for the aerosols is assumed real for $\lambda \leq 0.6\mu m$. For $\lambda > 0.6\mu m$, the imaginary part is assumed to increase linearly to a value of 0.1 for $\lambda \geq 2\mu m$. This model is based on measurements by Volz (1957).

The total numbers of aerosol particles per unit volume for the "clear" atmosphere have been adjusted to give an extinction coefficient at $\lambda = 0.55\mu m$ identical to the attenuation model of Elterman (1968 and 1970) at each altitude. The "clear" and "hazy" models are identical above 5 km. Below 5-km altitude, the number of aerosol particles in the "hazy" model increases exponentially to a value corresponding to a ground visibility of 5 km.

Table 2. Amount of Water Vapor (precipitable centimeters) in the Five Model Atmospheres for which Calculations have been made

	Tropical	Midlat. Summer	Midlat. Winter	Subarc. Summer	Subarc. Winter
10-km Horizontal Path at Sea Level	19.0	14.0	3.50	9.10	1.20
10-km Horizontal Path at 12-km Altitude	0.006	0.006	0.006	0.006	0.006
Vertical Path from Sea Level to Space	4.13	2.93	0.853	2.08	0.410

4. COMPUTATIONAL TECHNIQUES FOR MOLECULAR ABSORPTION

In the spectral region covered, molecular absorption by water vapor, carbon dioxide, nitrous oxide, ozone and methane occurs. Carbon dioxide, nitrous oxide and methane were taken to be uniformly mixed by volume in the atmosphere at 330 ppmv, 0.28 ppmv and 1.6 ppmv, respectively. The water vapor and ozone were distributed according to the models described above. A Lorentz line shape as given in Equation (1) was assumed for each line.

$$k_m = \frac{S\alpha}{\pi[(\nu-\nu_o)^2 + \alpha^2]} \tag{1}$$

in which S is the line intensity, α is the line half-width, ν_o is the central line frequency, and ν is the laser frequency. For pressures less than 10 mb, a Voigt profile was used in the calculations (see Young, 1965). The laser frequency (ν) was assumed monochromatic for the purposes of this calculation. In general, a large number of absorption lines belonging to different molecules contribute to the attenuation at any specific laser frequency, so the total optical depth (O.D.) must be evaluated and is given by Equation (2).

$$\text{O.D.} = \Sigma_j \Sigma_i \frac{S_{ij}\,\alpha_{ij}\,m_j}{\pi[(\nu - \nu_{ij})^2 + \alpha^2_{ij}]}, \tag{2}$$

where m_j represents the amount of the j^{th} absorbing gas.

Pressure broadening enters through the α_{ij} values in Equation (2). The Lorentz line width is given by

$$\alpha = \alpha_o \, P/Po\sqrt{\frac{To}{T}} \, .$$

The line intensity (S) is also temperature dependent through the population of the lower state of the transition and through the partition functions. These pressure and temperature effects have been included for all lines. The wings of all lines within ± 20 cm^{-1} of frequency, ν, were considered to contribute to the absorption coefficient at frequency ν.

In addition to this, absorption due to the water vapor continuum has been included based on the measurements of Burch et al, 1971 and Bignell, 1970, between 1250-320 cm^{-1}.

5. RESULTS

Figures 2a through 2h provide a high resolution (infinite resolution) transmittance spectrum for a 10-km horizontal path at sea level corresponding to the Midlatitude Winter model atmosphere. These curves cover the entire spectral region from 320 to 1400 wavenumbers. The resulting curves for frequencies in the range 320 to 440 cm^{-1} were entirely black (transmittance $\leq 10^{-3}$).

Figures 3a through 3i provide a high resolution transmittance spectrum for a 10-km horizontal path at a 12-km (approximately 40,000 ft) altitude.

Figures 2 and 3 are intended to provide the reader with an "infinite" resolution spectrum for estimating atmospheric transmittance in the middle infrared. These figures taken together with similar figures presented by McClatchey (1971) and McClatchey and Selby (1972), provide synthetic atmospheric spectra for sea level and 12-km altitude for the entire spectral region from 320 to 3740 cm^{-1} (31.25-2.67μm).

The Appendix provides detailed quantitative information on attenuation for each of the CO_2 laser emission frequencies specified in Table 1 and for each of the model atmospheres described above. The notations used in the column headings should be read as follows:

k_m = Molecular absorption coefficient,

σ_m = molecular scattering coefficient,

k_a = aerosol absorption coefficient,

σ_a = aerosol scattering coefficient.

All attenuation coefficients are given in units of km^{-1}. Zero entries indicate that the computed value is less than 10^{-6}. The total attenuation coefficient per kilometer is given by Equation (3).

$$\gamma = k_m + \sigma_m + k_a + \sigma_a . \tag{3}$$

For horizontal paths, γ can be simply multiplied by the range, R, in km in order to determine the total optical depth. The transmittance is then given by Equation (4).

$$\tau = \exp(-\gamma R). \tag{4}$$

If the atmospheric transmittance is required for a vertical or slant path, the entries in the Appendix must be summed (excluding the first entry) between the two altitude levels of interest and multiplied by the height increment (ΔH = 1km below 25 km). The result should be multiplied by the appropriate sec θ (where θ is the zenith angle) value to determine the total optical depth. The transmittance is then given by Equation (5). The use of sec θ in Equation (5) must be restricted to $\theta \leq 80°$. For larger angles, curvature and refractive effects become increasingly important, and sec θ must be replaced by an appropriate air mass parameter (see McClatchey et al, 1971).

$$\tau = \exp - (\sec \theta \Sigma_k \gamma_k \Delta H_k). \tag{5}$$

Special note should be made of the spectral region shown in Figures 2a-2g. Absorption due to the water vapor continuum is responsible for the continuous underlying absorption in this region. For example, at 992 cm^{-1} the sea level transmittance over a 10-km horizontal path (see Figure 2f) is about 0.70. However, due to the partial pressure of H_2O, the transmittance increases rapidly with height as can be seen in Figures 3a-3f.

An example of the use of the data presented in Figures 2 and 3 and the Appendix follows: An examination of Figure 2e shows, at a glance, the atmospheric absorption at the frequencies of the CO_2 laser lines. For example the transmittance over a 10 km horizontal path in the case of the Midlatitude Winter model for the P20 CO_2 line at 944.190 is seen to be about 0.40. Furthermore, it can be seen that about half the absorption at this frequency is due to the water vapor continuum and the other half is due to absorption by atmospheric CO_2.

Reference can now be made to the appropriate page of the Appendix for more detailed information. Here, we can determine, for example, that the optical depth per kilometer at sea level corresponding to the Midlatitude Winter Model and neglecting aerosol scattering and absorption effects is 0.0958. For a 10-km horizontal path at sea level, the optical depth is thus 0.958 and the transmittance is

exp (-0.958) = 0.384. If aerosol effects are to be included, the attenuation coefficients (or optical depths) must first be added and then transmittance determined according to τ = exp (-optical depth). The resulting transmittance for a 10-km horizontal path at sea level including aerosol effects is 0.347 for the "clear" aerosal model and 0.236 for the "hazy" model.

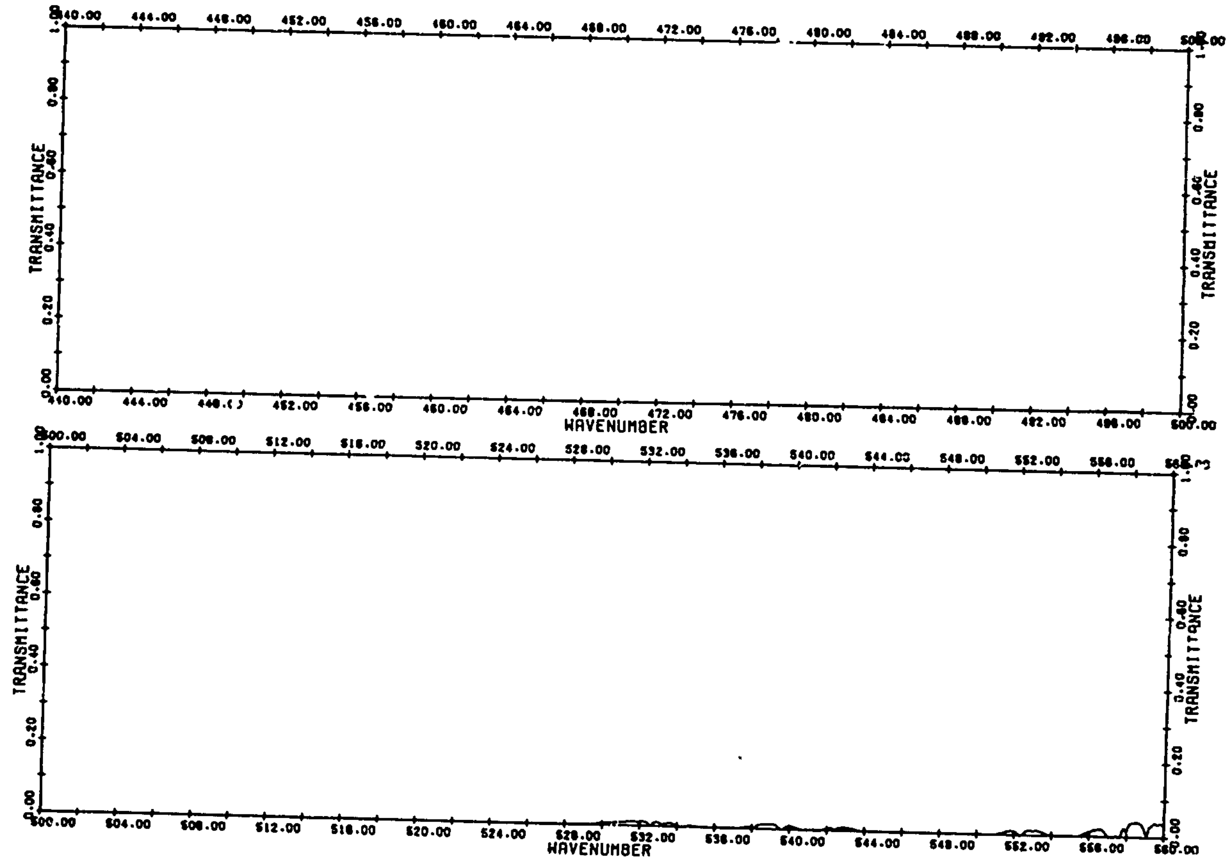

Figure 2a. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

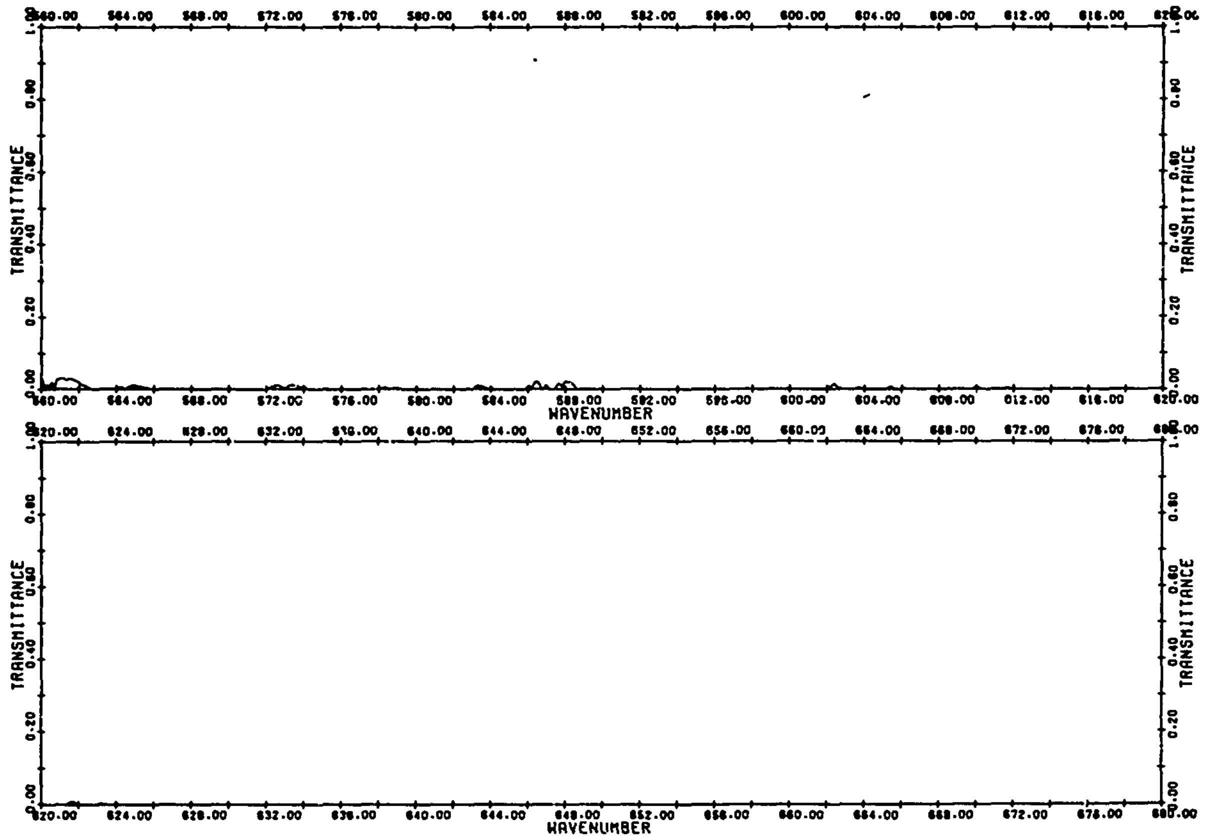

Figure 2b. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

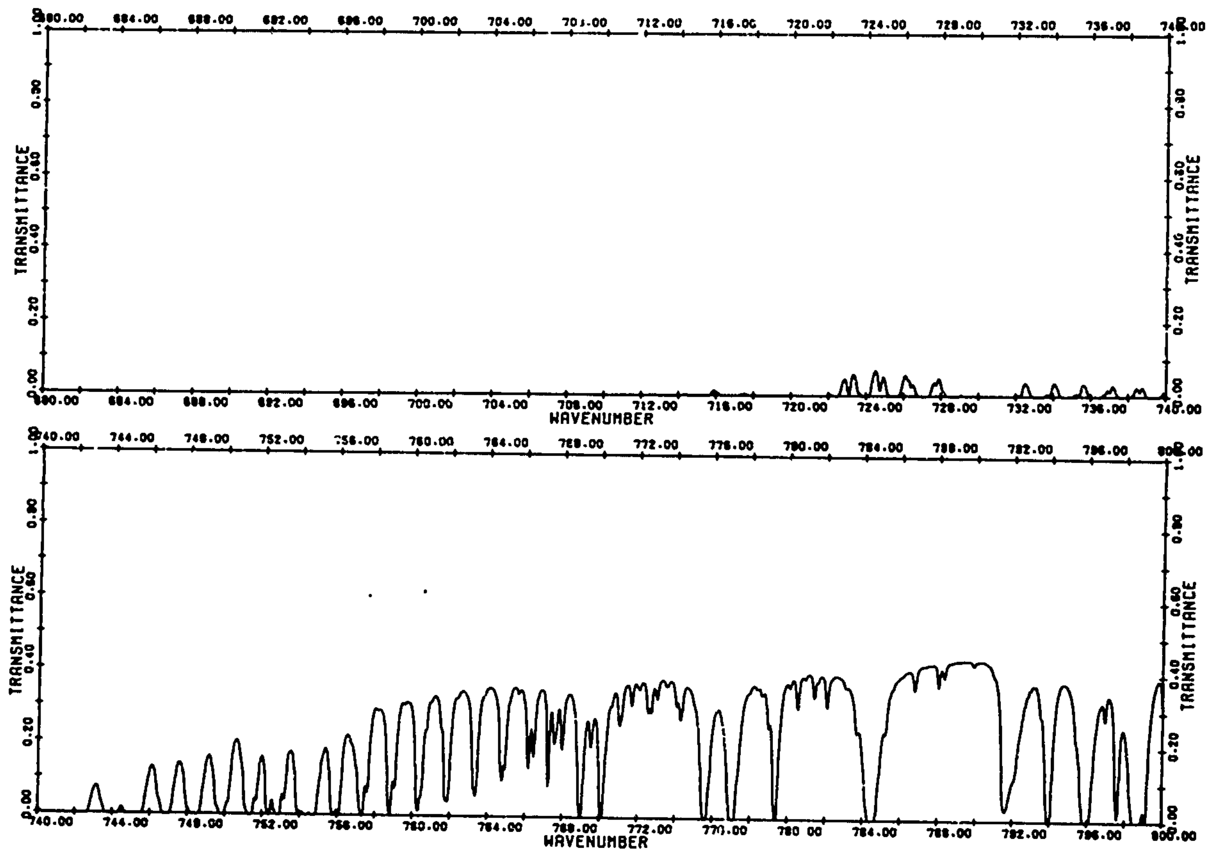

Figure 2c. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

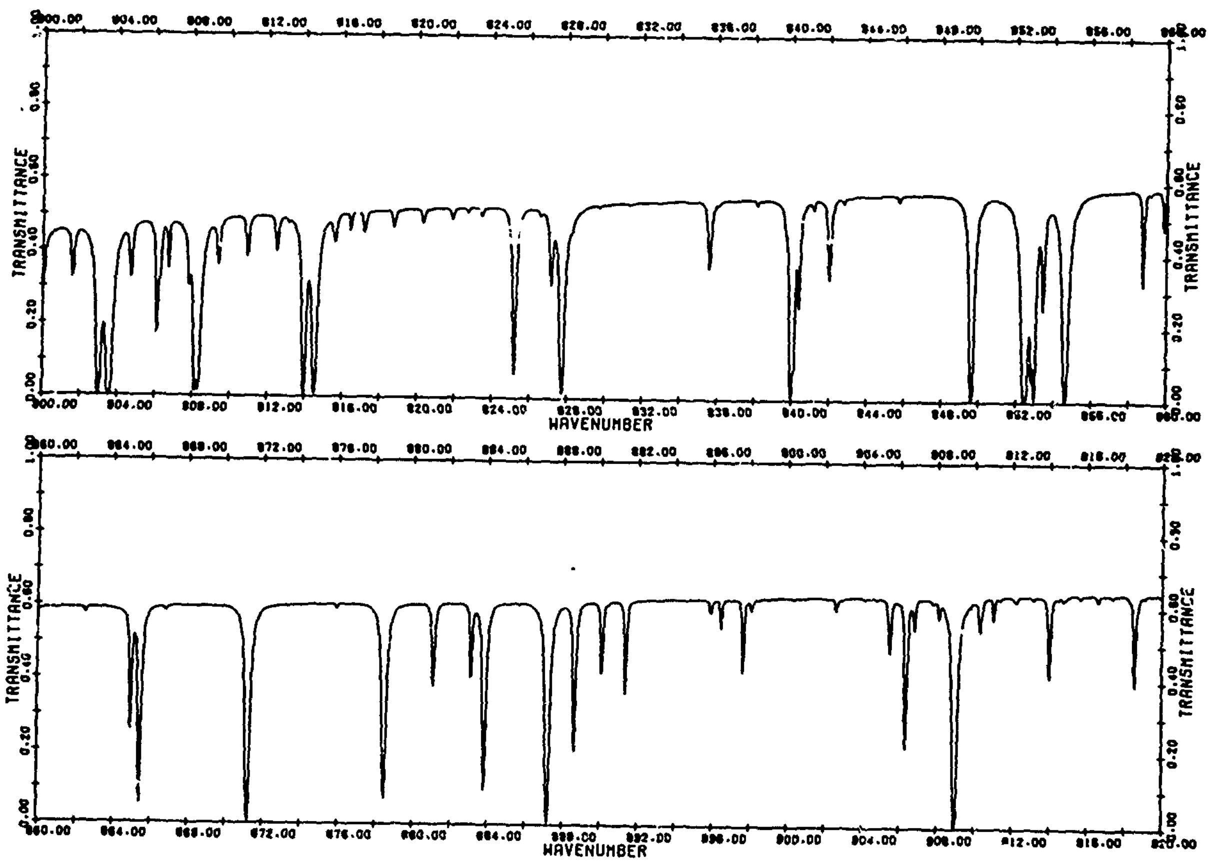

Figure 2d. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

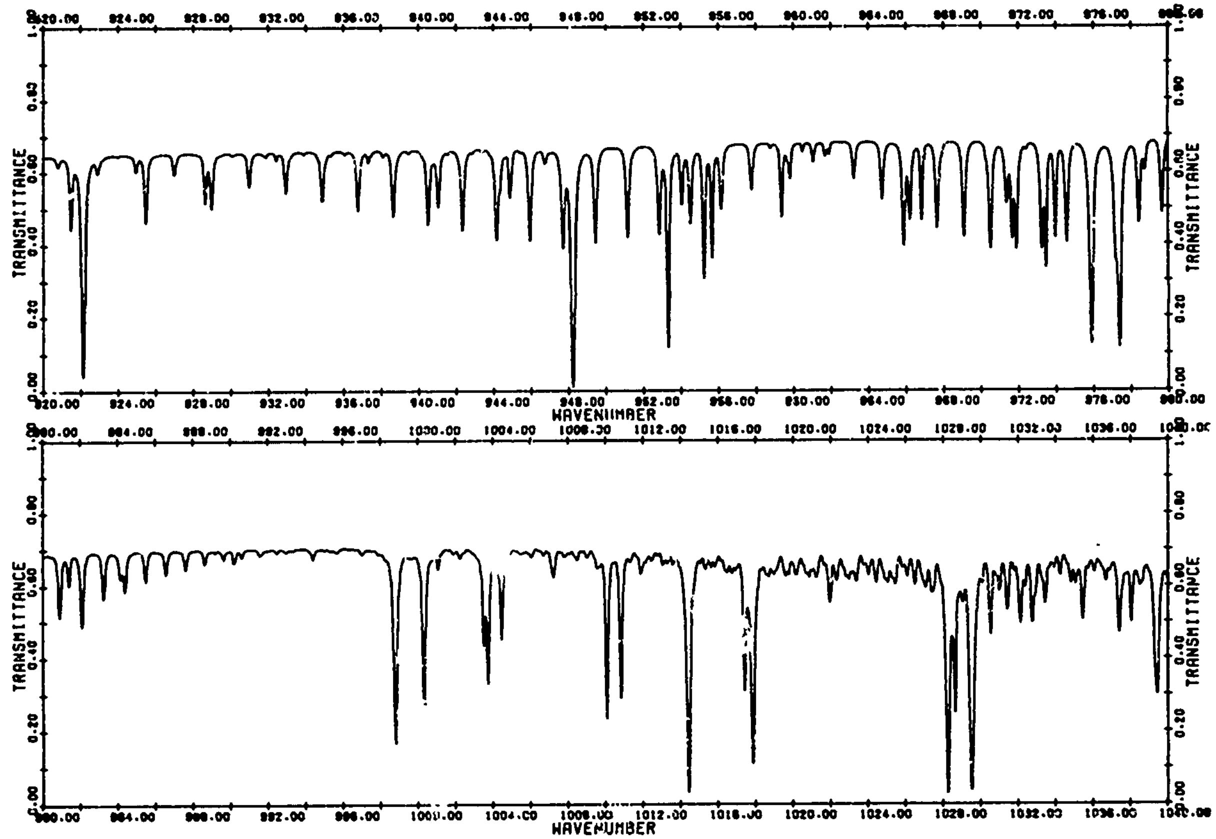

Figure 2e. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

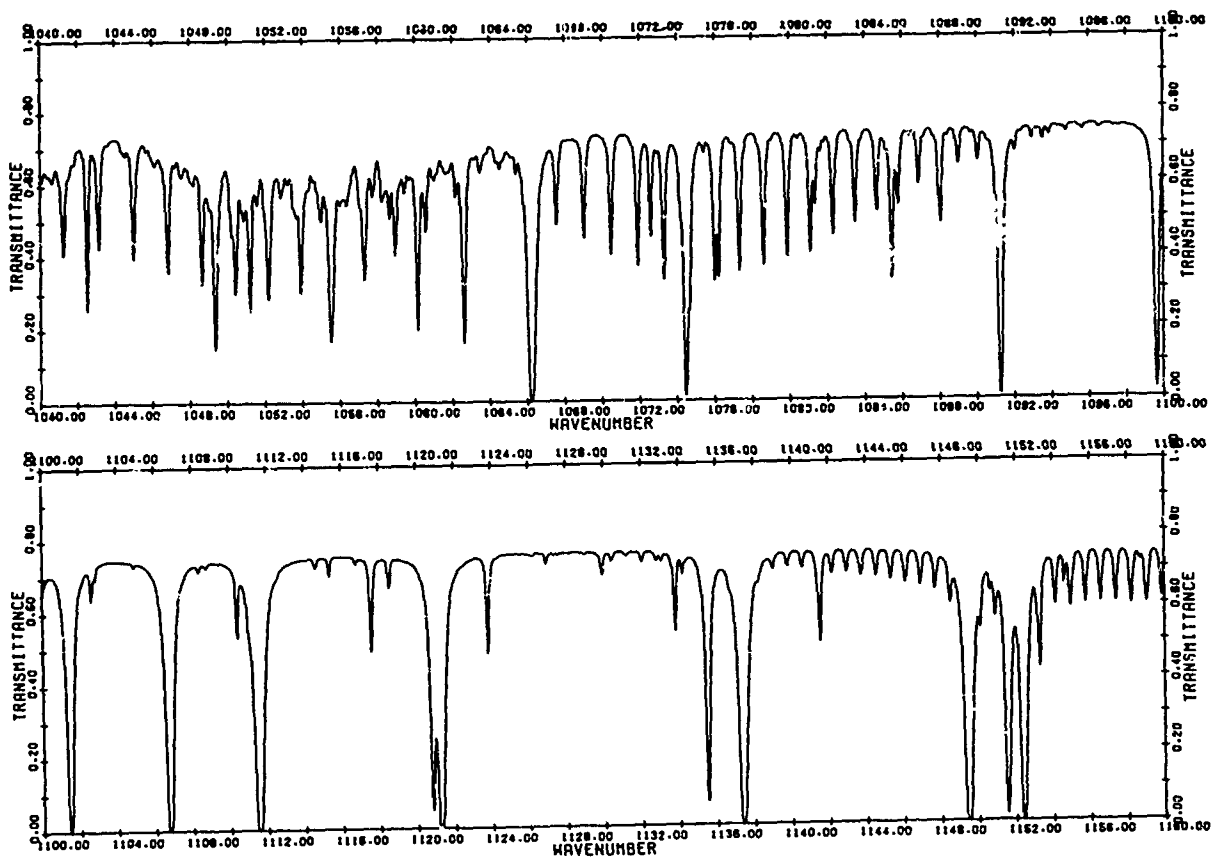

Figure 2f. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

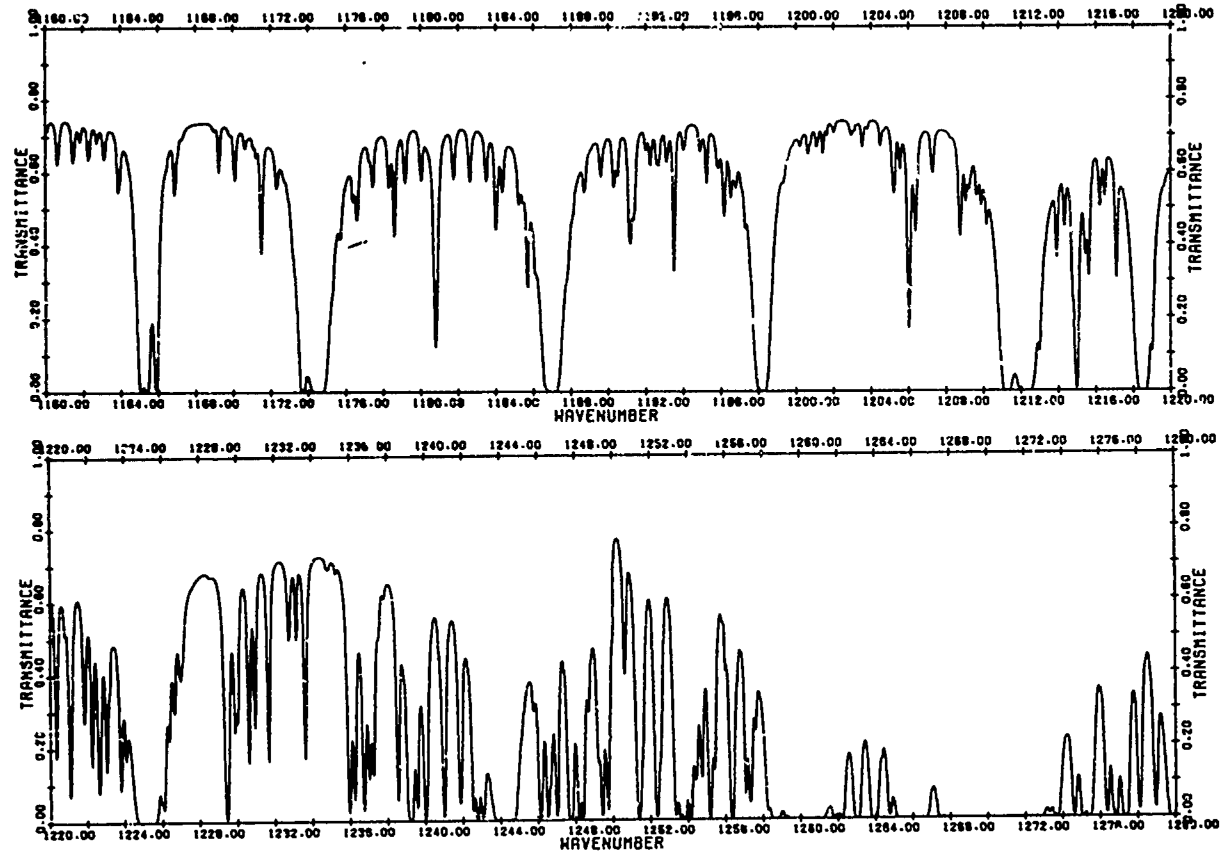

Figure 2g. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

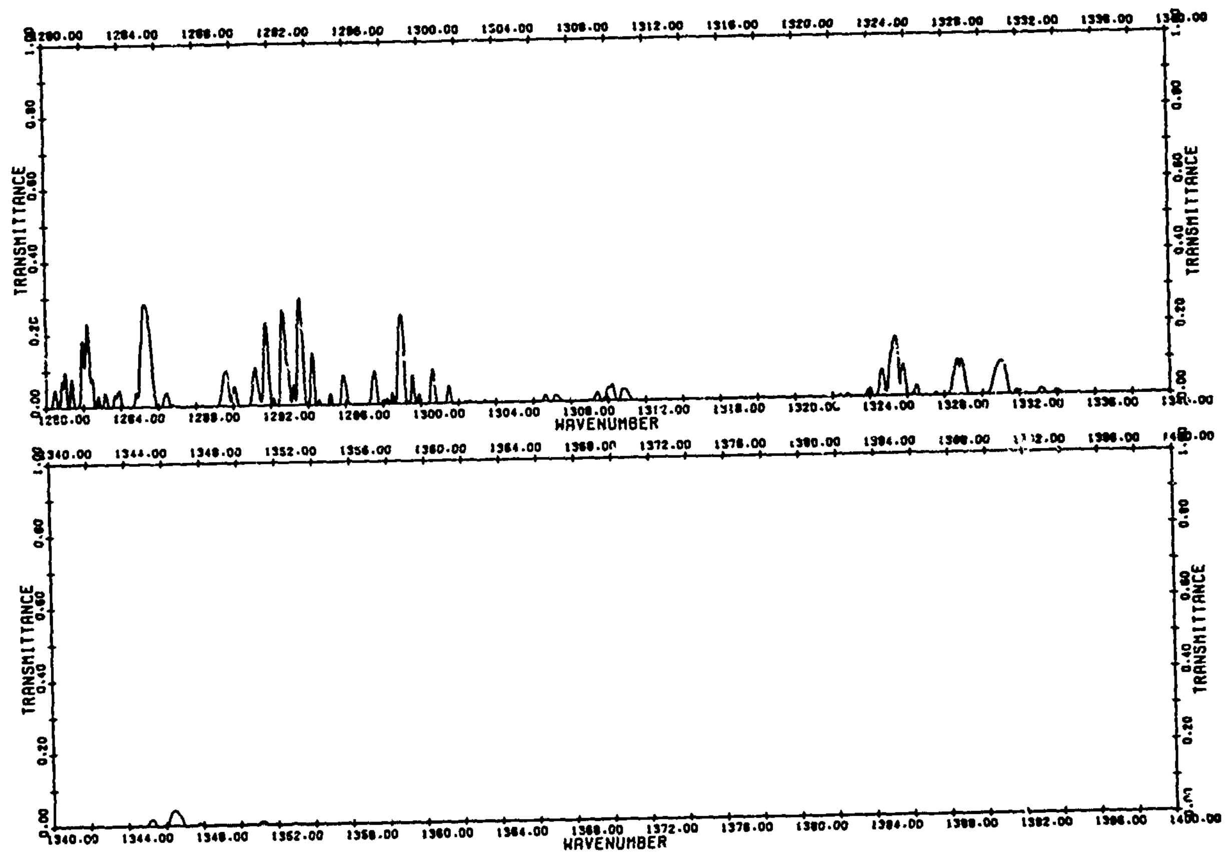

Figure 2h. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at Sea Level

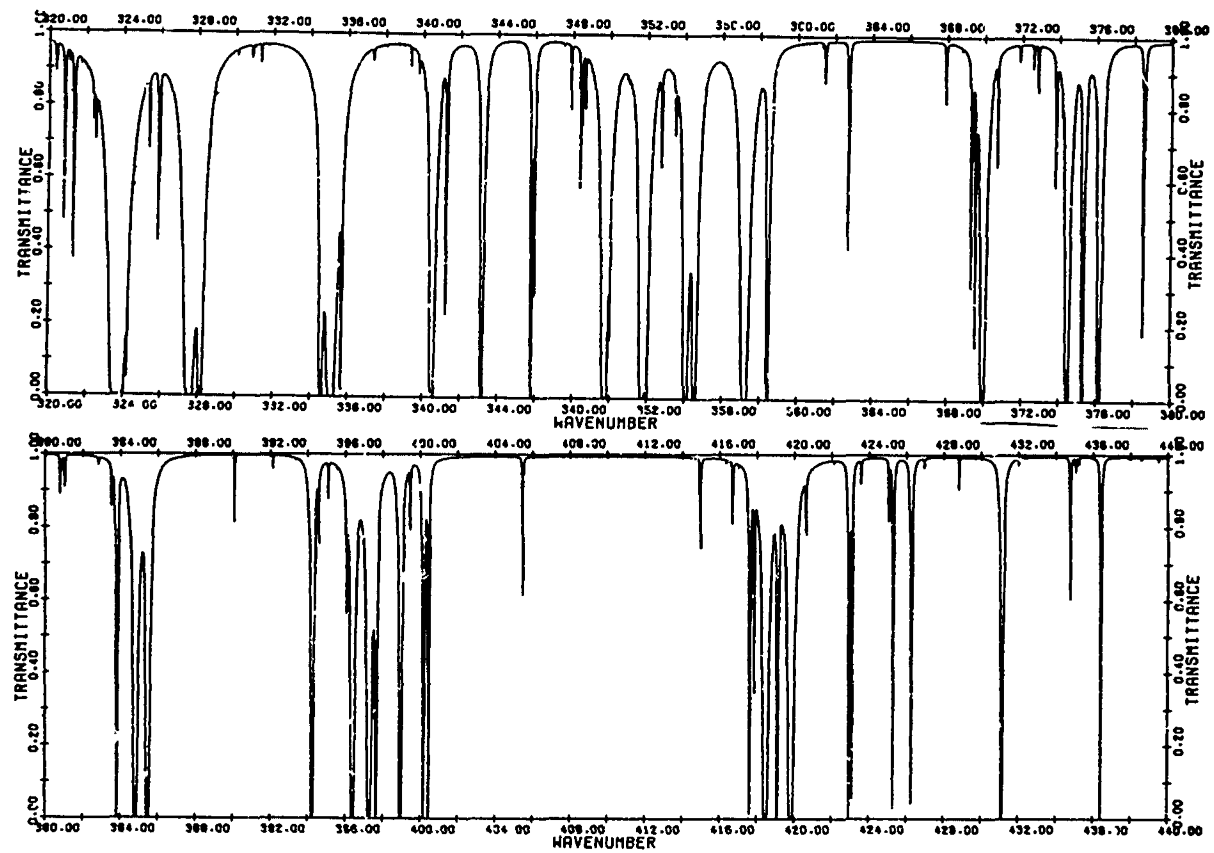

Figure 3a. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

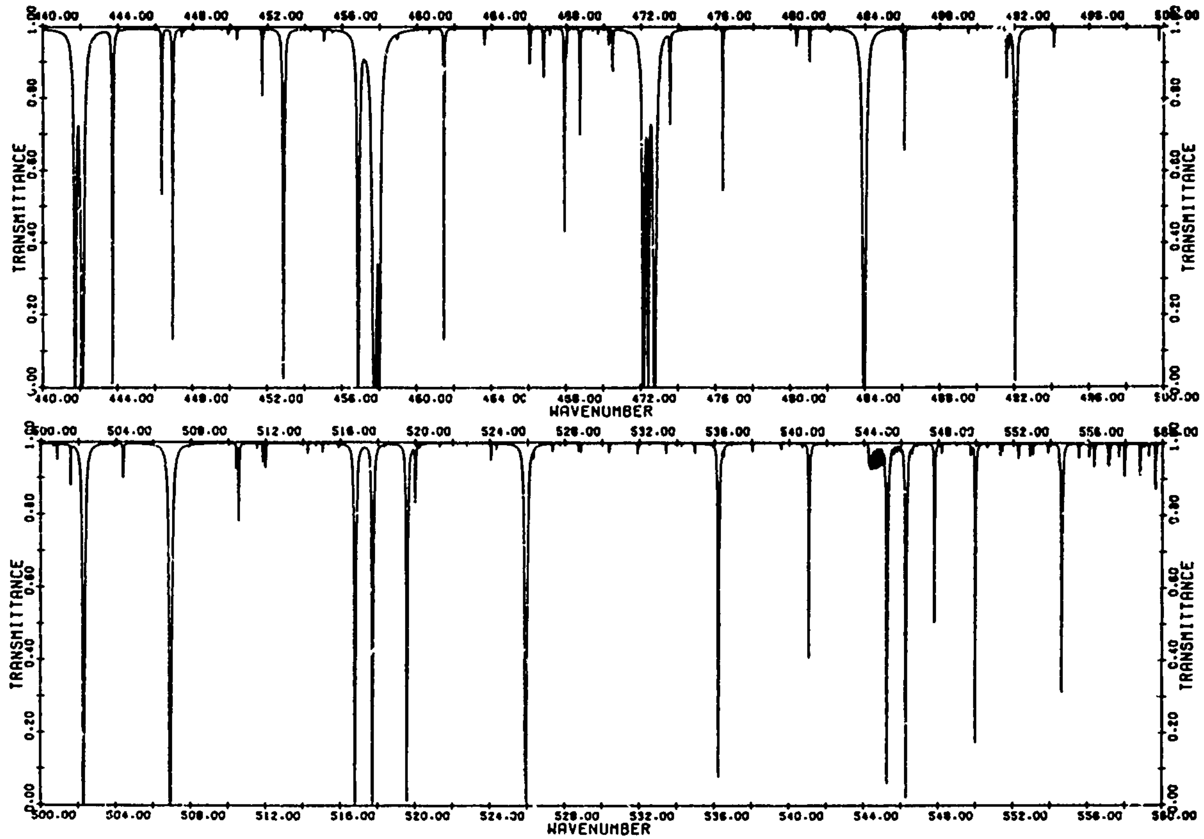

Figure 3b. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

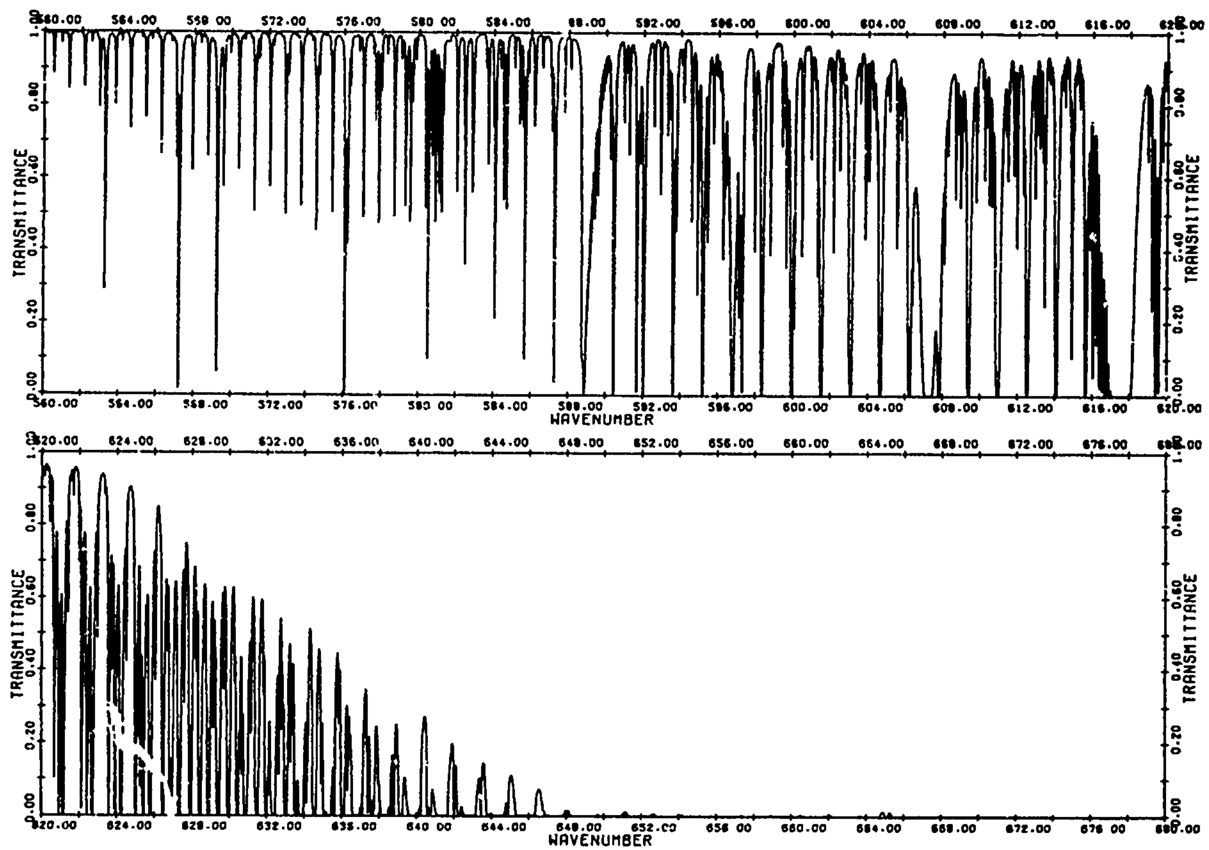

Figure 3c. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

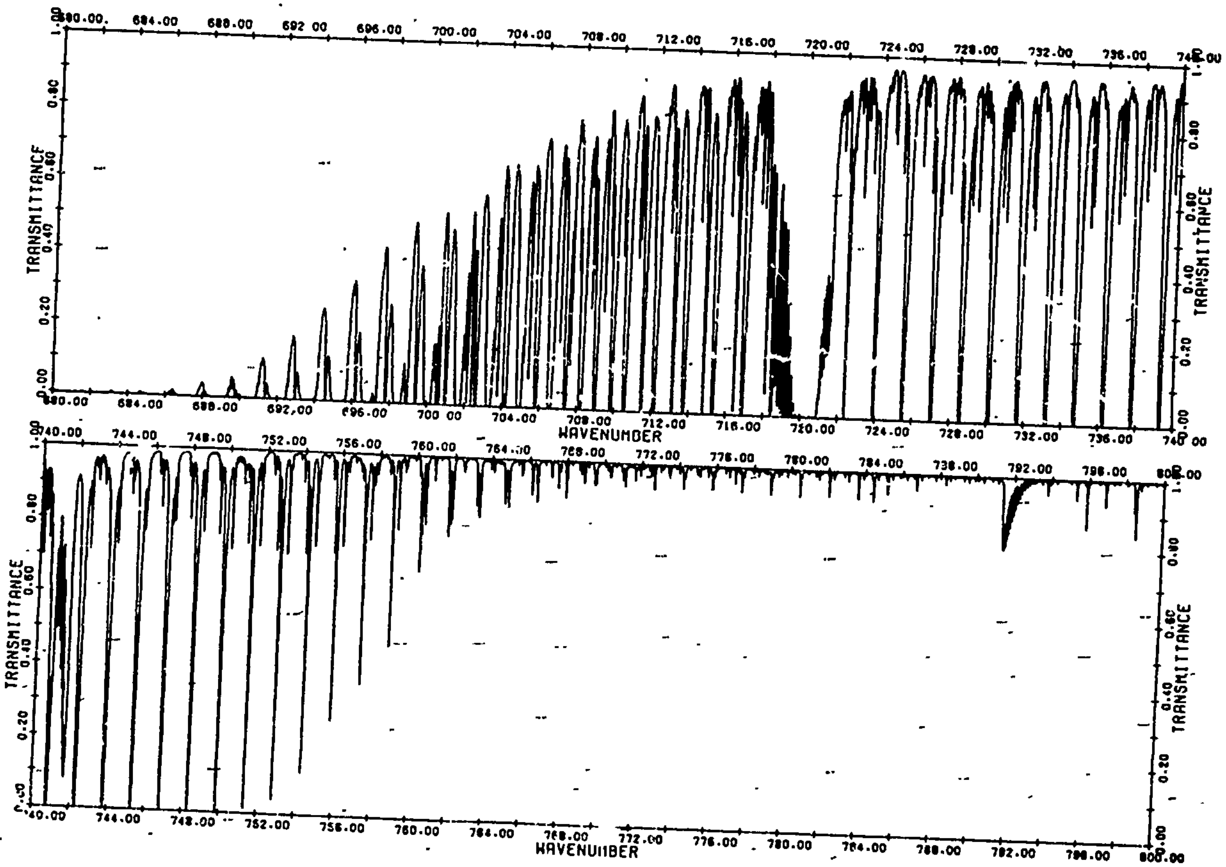

Figure 3d. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

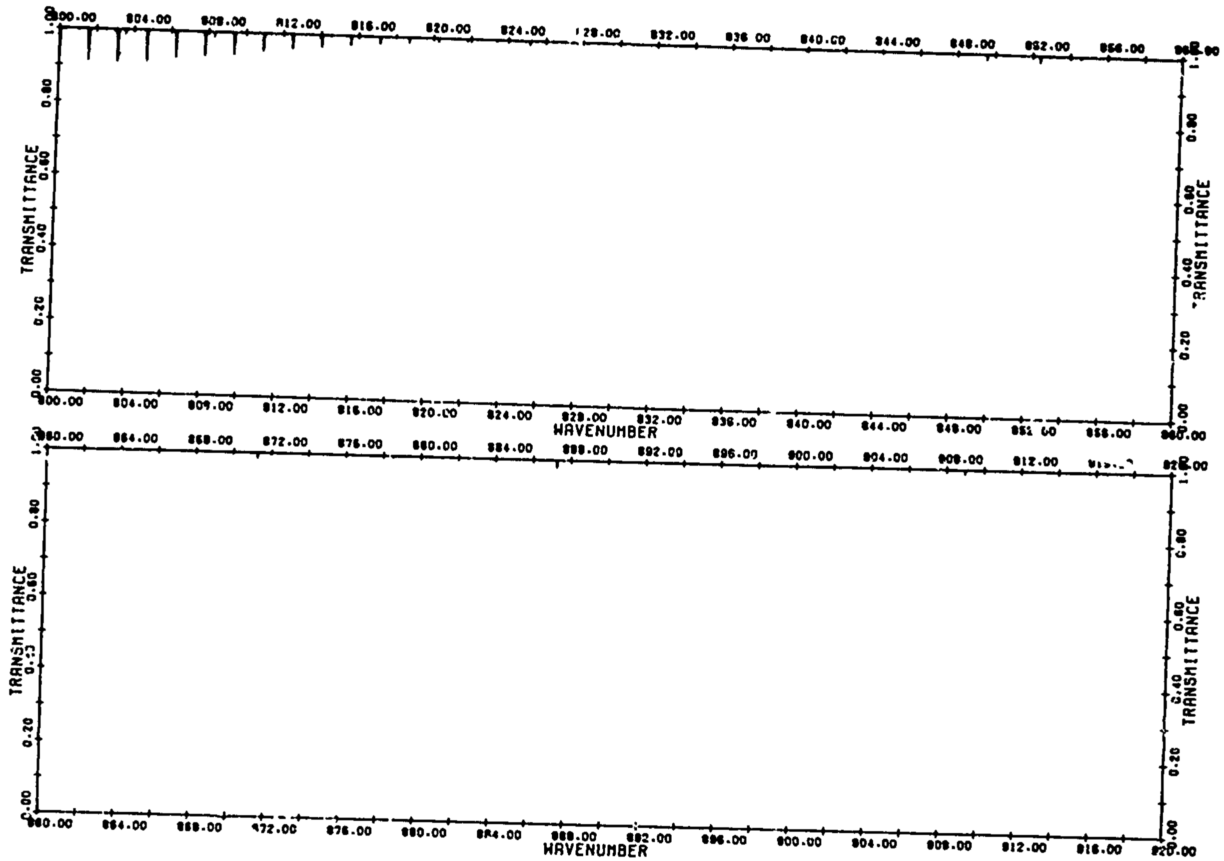

Figure 3e. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

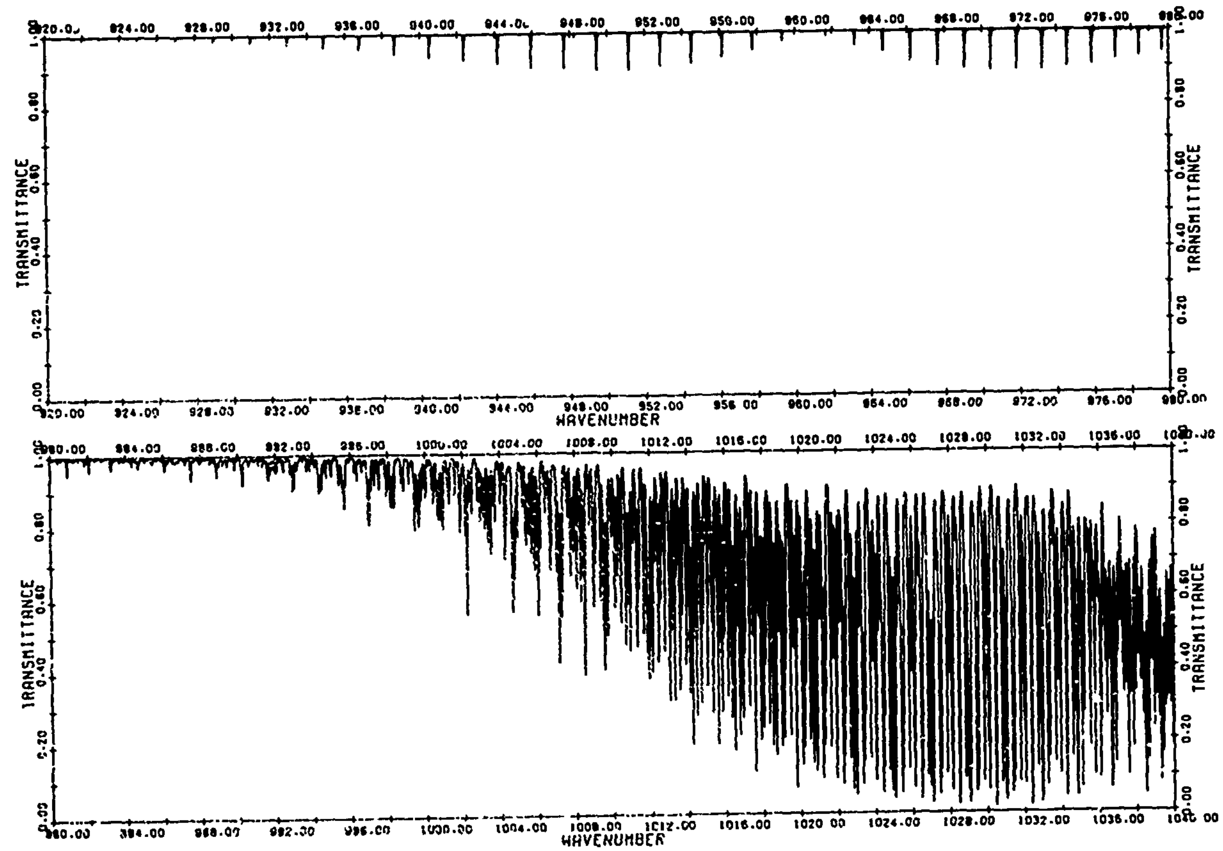

Figure 3f. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

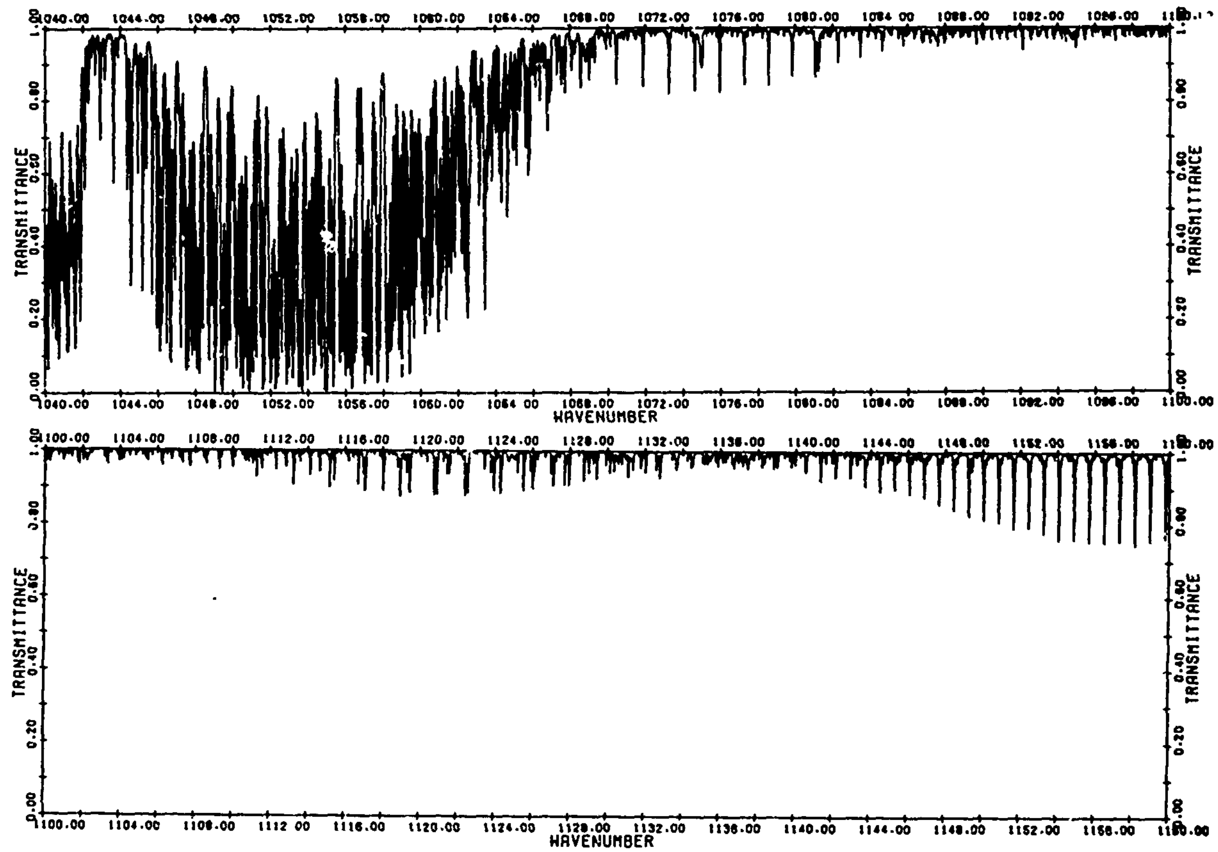

Figure 3g. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

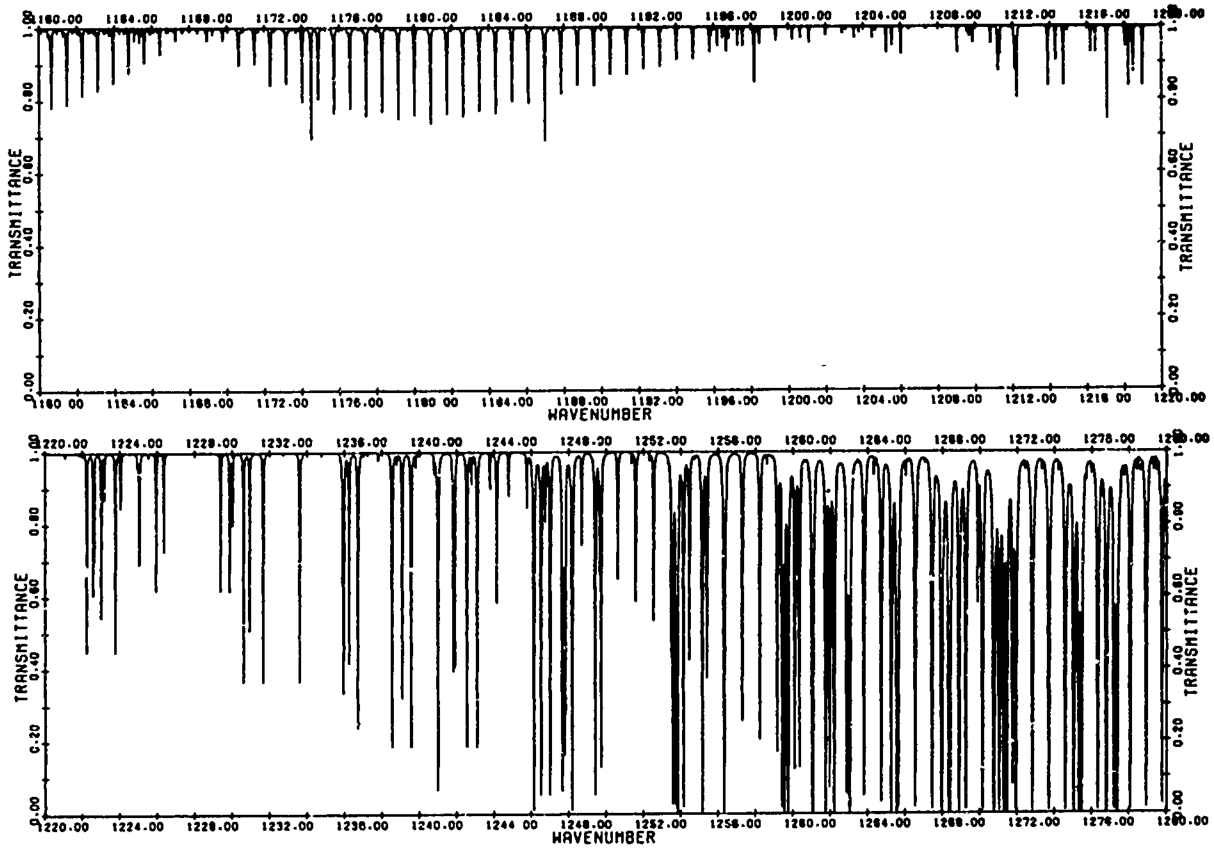

Figure 3h. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

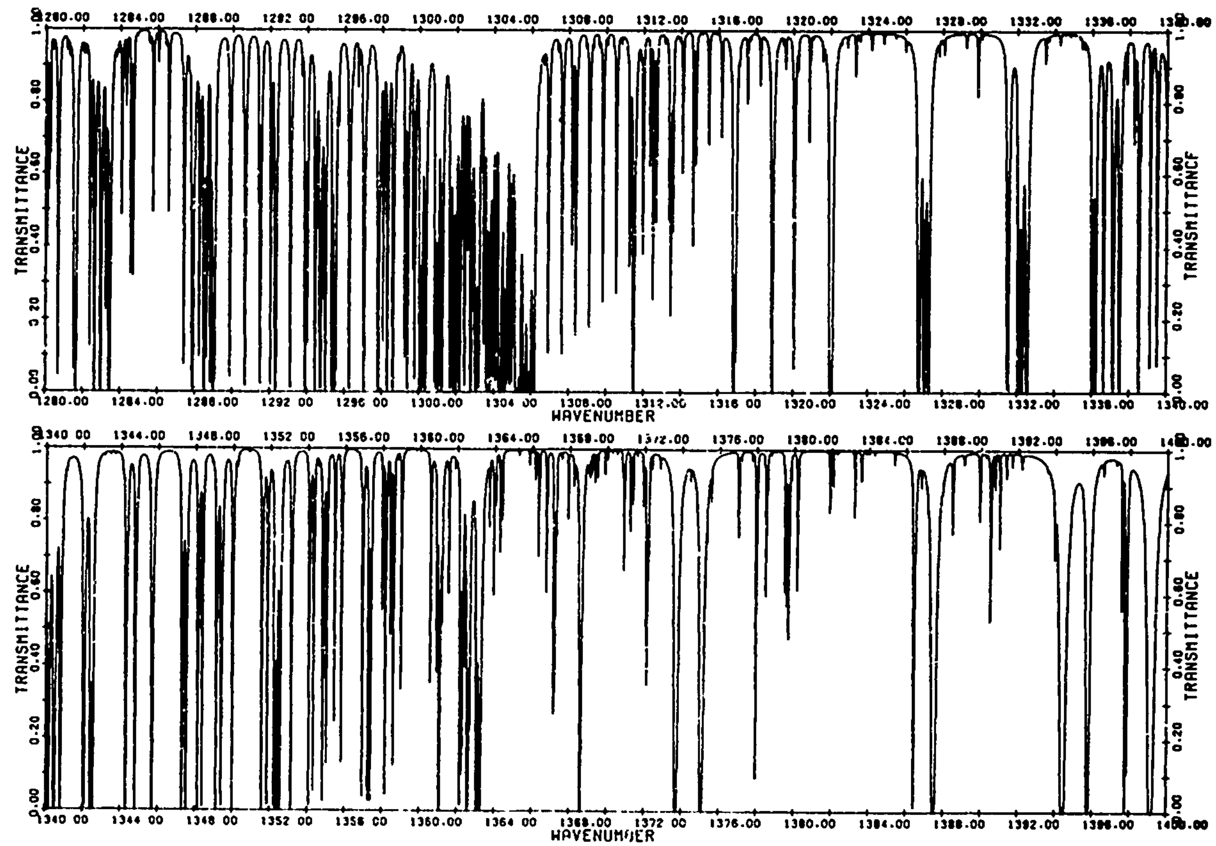

Figure 3i. Atmospheric Transmittance due to Molecular Absorption Through a 10-km Horizontal Path at an Elevation of 12 km

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Appendix

Attenuation Coefficients (km^{-1}) for a Selected List of CO_2 Laser Frequencies for Five Geographical Model Atmospheres and Two Aerosol Models

WAVELENGTH = 10.811161 MICROMETERS

FREQUENCY = 924.970 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.138E-01	0.00	2.949E-01	0.00	3.594E-02	0.00	1.424E-01	0.00	1.124E-02	0.00	5.287E-03	4.454E-03	2.575E-02	2.170E-02
0 - 1	3.659E-01	0.00	2.093E-01	0.00	2.876E-02	0.00	1.023E-01	0.00	1.111E-02	0.00	3.609E-03	3.040E-03	1.624E-02	1.358E-02
1 - 2	1.908E-01	0.00	1.017E-01	0.00	1.890E-02	0.00	5.524E-02	0.00	9.584E-03	0.00	1.575E-03	1.326E-03	5.225E-03	4.402E-03
2 - 3	8.391E-02	0.00	4.685E-02	0.00	1.274E-02	0.00	3.115E-02	0.00	7.246E-03	0.00	6.718E-04	5.659E-04	1.815E-03	1.529E-03
3 - 4	3.160E-02	0.00	2.317E-02	0.00	8.228E-03	0.00	1.790E-02	0.00	5.259E-03	0.00	3.120E-04	2.628E-04	7.929E-04	6.579E-04
4 - 5	1.645E-02	0.00	1.281E-02	0.00	5.390E-03	0.00	1.071E-02	0.00	3.516E-03	0.00	1.943E-04	1.637E-04	2.895E-04	2.439E-04
5 - 6	1.056E-02	0.00	8.363E-03	0.00	3.729E-03	0.00	6.750E-03	0.00	2.355E-03	0.00	1.419E-04	1.195E-04	1.419E-04	1.195E-04
6 - 7	6.897E-03	0.00	6.036E-03	0.00	2.637E-03	0.00	4.306E-03	0.00	1.619E-03	0.00	1.143E-04	9.630E-05	1.143E-04	9.630E-05
7 - 8	4.717E-03	0.00	4.283E-03	0.00	1.885E-03	0.00	2.913E-03	0.00	1.101E-03	0.00	1.119E-04	9.423E-05	1.119E-04	9.423E-05
8 - 9	3.420E-03	0.00	3.026E-03	0.00	1.392E-03	0.00	1.983E-03	0.00	8.266E-04	0.00	1.112E-04	9.365E-05	1.112E-04	9.365E-05
9 - 10	2.414E-03	0.00	2.239E-03	0.00	9.812E-04	0.00	1.358E-03	0.00	7.478E-04	0.00	1.075E-04	9.056E-05	1.075E-04	9.056E-05
10 - 11	1.730E-03	0.00	1.628E-03	0.00	8.469E-04	0.00	1.115E-03	0.00	7.439E-04	0.00	1.028E-04	8.658E-05	1.028E-04	8.658E-05
11 - 12	1.229E-03	0.00	1.164E-03	0.00	8.115E-04	0.00	1.142E-03	0.00	7.412E-04	0.00	1.020E-04	8.589E-05	1.020E-04	8.589E-05
12 - 13	9.016E-04	0.00	8.137E-04	0.00	7.924E-04	0.00	1.093E-03	0.00	7.257E-04	0.00	1.004E-04	8.459E-05	1.004E-04	8.459E-05
13 - 14	5.810E-04	0.00	6.805E-04	0.00	7.838E-04	0.00	1.136E-03	0.00	7.563E-04	0.00	9.545E-05	8.040E-05	9.545E-05	8.040E-05
14 - 15	4.168E-04	0.00	7.097E-04	0.00	7.498E-04	0.00	1.129E-03	0.00	7.380E-04	0.00	9.157E-05	7.713E-05	9.157E-05	7.713E-05
15 - 16	2.774E-04	0.00	6.926E-04	0.00	7.235E-04	0.00	1.078E-03	0.00	7.250E-04	0.00	8.655E-05	7.291E-05	8.655E-05	7.291E-05
16 - 17	1.966E-04	0.00	6.822E-04	0.00	7.039E-04	0.00	1.124E-03	0.00	7.012E-04	0.00	8.390E-05	7.067E-05	8.390E-05	7.067E-05
17 - 18	2.145E-04	0.00	6.907E-04	0.00	6.975E-04	0.00	1.112E-03	0.00	6.762E-04	0.00	8.205E-05	6.912E-05	8.205E-05	6.912E-05
18 - 19	2.810E-04	0.00	7.034E-04	0.00	6.677E-04	0.00	1.109E-03	0.00	6.612E-04	0.00	7.416E-05	6.248E-05	7.416E-05	6.248E-05
19 - 20	3.583E-04	0.00	7.446E-04	0.00	6.463E-04	0.00	1.125E-03	0.00	6.292E-04	0.00	5.847E-05	4.926E-05	5.847E-05	4.926E-05
20 - 21	4.611E-04	0.00	7.772E-04	0.00	6.606E-04	0.00	1.097E-03	0.00	6.160E-04	0.00	4.266E-05	3.594E-05	4.266E-05	3.594E-05
21 - 22	5.838E-04	0.00	8.344E-04	0.00	6.616E-04	0.00	1.118E-03	0.00	5.908E-04	0.00	3.148E-05	2.652E-05	3.148E-05	2.652E-05
22 - 23	6.825E-04	0.00	8.861E-04	0.00	6.594E-04	0.00	1.118E-03	0.00	5.614E-04	0.00	2.388E-05	2.012E-05	2.388E-05	2.012E-05
23 - 24	7.609E-04	0.00	9.982E-04	0.00	6.554E-04	0.00	1.119E-03	0.00	5.659E-04	0.00	1.859E-05	1.565E-05	1.859E-05	1.565E-05
24 - 25	8.585E-04	0.00	1.010E-03	0.00	6.777E-04	0.00	1.215E-03	0.00	5.235E-04	0.00	1.517E-05	1.278E-05	1.517E-05	1.278E-05
25 - 30	1.141E-03	0.00	1.300E-03	0.00	6.659E-04	0.00	1.470E-03	0.00	5.729E-04	0.00	8.094E-06	6.818E-06	8.094E-06	6.818E-06
30 - 35	1.297E-03	0.00	1.471E-03	0.00	6.154E-04	0.00	2.288E-03	0.00	4.877E-04	0.00	2.311E-06	1.947E-05	2.311E-06	1.947E-05
35 - 40	1.363E-03	0.00	1.623E-03	0.00	7.132E-04	0.00	1.842E-03	0.00	4.959E-04	0.00	0.	0.	0.	0.
40 - 45	1.233E-03	0.00	1.547E-03	0.00	7.641E-04	0.00	1.797E-03	0.00	4.651E-04	0.00	0.	0.	0.	0.
45 - 50	9.085E-04	0.00	1.191E-03	0.00	6.288E-04	0.00	1.326E-03	0.00	4.013E-04	0.00	0.	0.	0.	0.
50 - 70	1.066E-04	0.00	1.311E-04	0.00	3.385E-05	0.00	1.328E-04	0.00	1.003E-04	0.00	0.	0.	0.	0.
70 - 100	1.228E-06	0.00	1.384E-06	0.00	1.378E-05	0.00	1.378E-06	0.00	1.721E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.787440 MICROMETERS

FREQUENCY = 927.004 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.214E-01	0.00	3.033E-01	0.00	4.233E-02	0.00	1.508E-01	0.00	1.536E-02	0.00	5.300E-03	4.468E-03	2.582E-02	2.177E-02
0 - 1	3.743E-01	0.00	2.182E-01	0.00	3.488E-02	0.00	1.106E-01	0.00	1.539E-02	0.00	3.517E-03	3.049E-03	1.628E-02	1.373E-02
1 - 2	1.998E-01	0.00	1.109E-01	0.00	2.453E-02	0.00	6.288E-02	0.00	1.378E-02	0.00	1.578E-03	1.331E-03	5.237E-03	4.415E-03
2 - 3	9.298E-02	0.00	5.549E-02	0.00	1.785E-02	0.00	3.794E-02	0.00	1.100E-02	0.00	5.734E-04	5.677E-04	1.819E-03	1.534E-03
3 - 4	4.015E-02	0.00	3.074E-02	0.00	1.264E-02	0.00	2.394E-02	0.00	8.535E-03	0.00	3.129E-04	2.637E-04	7.948E-04	6.700E-04
4 - 5	2.350E-02	0.00	1.905E-02	0.00	8.984E-03	0.00	1.574E-02	0.00	6.113E-03	0.00	1.947E-04	1.642E-04	2.903E-04	2.447E-04
5 - 6	1.638E-02	0.00	1.367E-02	0.00	6.585E-03	0.00	1.091E-02	0.00	4.331E-03	0.00	1.422E-04	1.199E-04	1.422E-04	1.199E-04
6 - 7	1.158E-02	0.00	1.045E-02	0.00	4.899E-03	0.00	7.454E-03	0.00	3.085E-03	0.00	1.146E-04	9.661E-05	1.146E-04	9.661E-05
7 - 8	8.397E-03	0.00	7.725E-03	0.00	3.631E-03	0.00	5.334E-03	0.00	2.171E-03	0.00	1.121E-04	9.453E-05	1.121E-04	9.453E-05
8 - 9	6.343E-03	0.00	5.628E-03	0.00	2.740E-03	0.00	3.795E-03	0.00	1.663E-03	0.00	1.114E-04	9.395E-05	1.114E-04	9.395E-05
9 - 10	4.614E-03	0.00	4.272E-03	0.00	1.961E-03	0.00	2.673E-03	0.00	1.512E-03	0.00	1.079E-04	9.084E-05	1.079E-04	9.084E-05
10 - 11	3.384E-03	0.00	3.180E-03	0.00	1.706E-03	0.00	2.222E-03	0.00	1.505E-03	0.00	1.030E-04	8.686E-05	1.030E-04	8.686E-05
11 - 12	2.443E-03	0.00	2.317E-03	0.00	1.637E-03	0.00	2.279E-03	0.00	1.502E-03	0.00	1.022E-04	8.616E-05	1.022E-04	8.616E-05
12 - 13	1.816E-03	0.00	1.644E-03	0.00	1.602E-03	0.00	2.185E-03	0.00	1.471E-03	0.00	1.007E-04	8.486E-05	1.007E-04	8.486E-05
13 - 14	1.186E-03	0.00	1.383E-03	0.00	1.587E-03	0.00	2.271E-03	0.00	1.533E-03	0.00	9.567E-05	8.066E-05	9.567E-05	8.066E-05
14 - 15	8.620E-04	0.00	1.442E-03	0.00	1.519E-03	0.00	2.258E-03	0.00	1.496E-03	0.00	9.179E-05	7.739E-05	9.179E-05	7.739E-05
15 - 16	5.815E-04	0.00	1.407E-03	0.00	1.467E-03	0.00	2.154E-03	0.00	1.470E-03	0.00	8.675E-05	7.314E-05	8.675E-05	7.314E-05
16 - 17	4.161E-04	0.00	1.386E-03	0.00	1.428E-03	0.00	2.246E-03	0.00	1.423E-03	0.00	8.410E-05	7.090E-05	8.410E-05	7.090E-05
17 - 18	4.529E-04	0.00	1.403E-03	0.00	1.416E-03	0.00	2.222E-03	0.00	1.374E-03	0.00	8.224E-05	6.933E-05	8.224E-05	6.933E-05
18 - 19	5.881E-04	0.00	1.427E-03	0.00	1.357E-03	0.00	2.215E-03	0.00	1.345E-03	0.00	7.434E-05	6.267E-05	7.434E-05	6.267E-05
19 - 20	7.435E-04	0.00	1.507E-03	0.00	1.314E-03	0.00	2.247E-03	0.00	1.281E-03	0.00	5.861E-05	4.941E-05	5.861E-05	4.941E-05
20 - 21	9.489E-04	0.00	1.570E-03	0.00	1.343E-03	0.00	2.191E-03	0.00	1.255E-03	0.00	4.276E-05	3.605E-05	4.276E-05	3.605E-05
21 - 22	1.192E-03	0.00	1.682E-03	0.00	1.345E-03	0.00	2.233E-03	0.00	1.205E-03	0.00	3.156E-05	2.660E-05	3.156E-05	2.660E-05
22 - 23	1.385E-03	0.00	1.782E-03	0.00	1.340E-03	0.00	2.233E-03	0.00	1.147E-03	0.00	2.394E-05	2.018E-05	2.394E-05	2.018E-05
23 - 24	1.538E-03	0.00	2.002E-03	0.00	1.332E-03	0.00	2.232E-03	0.00	1.157E-03	0.00	1.863E-05	1.570E-05	1.863E-05	1.570E-05
24 - 25	1.729E-03	0.00	2.023E-03	0.00	1.377E-03	0.00	2.417E-03	0.00	1.072E-03	0.00	1.520E-05	1.282E-05	1.520E-05	1.282E-05
25 - 30	2.273E-03	0.00	2.578E-03	0.00	1.351E-03	0.00	2.902E-03	0.00	1.168E-03	0.00	8.113E-06	6.840E-06	8.113E-06	6.840E-06
30 - 35	2.122E-03	0.00	2.420E-03	0.00	1.027E-03	0.00	4.450E-03	0.00	8.130E-04	0.00	2.317E-06	1.953E-06	2.317E-06	1.953E-06
35 - 40	2.043E-03	0.00	2.438E-03	0.00	1.082E-03	0.00	2.756E-03	0.00	7.568E-04	0.00	0.	0.	0.	0.
40 - 45	1.742E-03	0.00	2.180E-03	0.00	1.085E-03	0.00	2.521E-03	0.00	6.675E-04	0.00	0.	0.	0.	0.
45 - 50	1.240E-03	0.00	1.619E-03	0.00	8.603E-04	0.00	1.799E-03	0.00	5.541E-04	0.00	0.	0.	0.	0.
50 - 70	1.477E-04	0.00	1.812E-04	0.00	4.654E-05	0.00	1.838E-04	0.00	1.369E-04	0.00	0.	0.	0.	0.
70 - 100	1.769E-06	0.00	1.996E-06	0.00	1.964E-05	0.00	1.992E-06	0.00	2.421E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.764112 MICROMETERS

FREQUENCY = 929.013 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	7.744E-01	0.00	4.514E-01	0.00	5.842E-02	0.00	2.244E-01	0.00	1.901E-02	0.00	5.312E-03	4.482E-03	2.538E-02	2.184E-02
0 - 1	5.674E-01	0.00	3.343E-01	0.00	4.816E-02	0.00	1.669E-01	0.00	1.929E-02	0.00	3.625E-03	3.059E-03	1.632E-02	1.377E-02
1 - 2	3.129E-01	0.00	1.783E-01	0.00	3.360E-02	0.00	9.557E-02	0.00	1.745E-02	0.00	1.582E-03	1.335E-03	5.250E-03	4.429E-03
2 - 3	1.530E-01	0.00	9.017E-02	0.00	2.399E-02	0.00	5.673E-02	0.00	1.380E-02	0.00	6.750E-04	5.695E-04	1.824E-03	1.539E-03
3 - 4	6.566E-02	0.00	4.751E-02	0.00	1.634E-02	0.00	3.458E-02	0.00	1.054E-02	0.00	3.135E-04	2.645E-04	7.956E-04	6.721E-04
4 - 5	3.523E-02	0.00	2.723E-02	0.00	1.118E-02	0.00	2.157E-02	0.00	7.417E-03	0.00	1.952E-04	1.647E-04	2.910E-04	2.455E-04
5 - 6	2.272E-02	0.00	1.806E-02	0.00	8.021E-03	0.00	1.407E-02	0.00	5.221E-03	0.00	1.426E-04	1.203E-04	1.425E-04	1.203E-04
6 - 7	1.498E-02	0.00	1.315E-02	0.00	5.905E-03	0.00	9.234E-03	0.00	3.735E-03	0.00	1.149E-04	9.691E-05	1.149E-04	9.691E-05
7 - 8	1.038E-02	0.00	9.455E-03	0.00	4.378E-03	0.00	6.472E-03	0.00	2.652E-03	0.00	1.124E-04	9.482E-05	1.124E-04	9.482E-05
8 - 9	7.669E-03	0.00	6.804E-03	0.00	3.328E-03	0.00	4.593E-03	0.00	2.051E-03	0.00	1.117E-04	9.424E-05	1.117E-04	9.424E-05
9 - 10	5.549E-03	0.00	5.153E-03	0.00	2.405E-03	0.00	3.249E-03	0.00	1.872E-03	0.00	1.080E-04	9.113E-05	1.030E-04	9.113E-05
10 - 11	4.088E-03	0.00	3.853E-03	0.00	2.105E-03	0.00	2.716E-03	0.00	1.867E-03	0.00	1.033E-04	8.713E-05	1.033E-04	8.713E-05
11 - 12	2.978E-03	0.00	2.832E-03	0.00	2.023E-03	0.00	2.788E-03	0.00	1.863E-03	0.00	1.024E-04	8.643E-05	1.024E-04	8.643E-05
12 - 13	2.240E-03	0.00	2.032E-03	0.00	1.983E-03	0.00	2.674E-03	0.00	1.826E-03	0.00	1.009E-04	8.512E-05	1.009E-04	8.512E-05
13 - 14	1.482E-03	0.00	1.720E-03	0.00	1.967E-03	0.00	2.782E-03	0.00	1.904E-03	0.00	9.590E-05	8.091E-05	9.590E-05	8.091E-05
14 - 15	1.091E-03	0.00	1.795E-03	0.00	1.886E-03	0.00	2.766E-03	0.00	1.858E-03	0.00	9.200E-05	7.762E-05	9.200E-05	7.762E-05
15 - 16	7.460E-04	0.00	1.752E-03	0.00	1.823E-03	0.00	2.640E-03	0.00	1.828E-03	0.00	8.695E-05	7.337E-05	8.695E-05	7.337E-05
16 - 17	5.392E-04	0.00	1.726E-03	0.00	1.778E-03	0.00	2.754E-03	0.00	1.772E-03	0.00	8.429E-05	7.112E-05	8.429E-05	7.112E-05
17 - 18	5.858E-04	0.00	1.747E-03	0.00	1.765E-03	0.00	2.725E-03	0.00	1.713E-03	0.00	8.244E-05	6.955E-05	8.244E-05	6.955E-05
18 - 19	7.543E-04	0.00	1.776E-03	0.00	1.693E-03	0.00	2.717E-03	0.00	1.678E-03	0.00	7.452E-05	6.287E-05	7.452E-05	6.287E-05
19 - 20	9.462E-04	0.00	1.873E-03	0.00	1.640E-03	0.00	2.757E-03	0.00	1.601E-03	0.00	5.875E-05	4.957E-05	5.875E-05	4.957E-05
20 - 21	1.198E-03	0.00	1.948E-03	0.00	1.676E-03	0.00	2.688E-03	0.00	1.571E-03	0.00	4.286E-05	3.616E-05	4.286E-05	3.616E-05
21 - 22	1.494E-03	0.00	2.084E-03	0.00	1.679E-03	0.00	2.741E-03	0.00	1.510E-03	0.00	3.163E-05	2.669E-05	3.163E-05	2.669E-05
22 - 23	1.727E-03	0.00	2.202E-03	0.00	1.673E-03	0.00	2.740E-03	0.00	1.438E-03	0.00	2.399E-05	2.024E-05	2.399E-05	2.024E-05
23 - 24	1.911E-03	0.00	2.467E-03	0.00	1.663E-03	0.00	2.737E-03	0.00	1.453E-03	0.00	1.867E-05	1.575E-05	1.867E-05	1.575E-05
24 - 25	2.141E-03	0.00	2.489E-03	0.00	1.720E-03	0.00	2.957E-03	0.00	1.347E-03	0.00	1.524E-05	1.286E-05	1.524E-05	1.286E-05
25 - 30	2.783E-03	0.00	3.143E-03	0.00	1.683E-03	0.00	3.526E-03	0.00	1.463E-03	0.00	8.133E-06	6.861E-05	8.133E-06	6.861E-06
30 - 35	2.727E-03	0.00	3.091E-03	0.00	1.354E-03	0.00	5.329E-03	0.00	1.081E-03	0.00	2.322E-06	1.959E-05	2.322E-06	1.959E-06
35 - 40	2.645E-03	0.00	3.137E-03	0.00	1.431E-03	0.00	3.532E-03	0.00	1.014E-03	0.00	0.	0.	0.	0.
40 - 45	2.254E-03	0.00	2.802E-03	0.00	1.423E-03	0.00	3.225E-03	0.00	8.886E-04	0.00	0.	0.	0.	0.
45 - 50	1.601E-03	0.00	2.076E-03	0.00	1.120E-03	0.00	2.299E-03	0.00	7.299E-04	0.00	0.	0.	0.	0.
50 - 70	1.974E-04	0.00	2.412E-04	0.00	6.193E-05	0.00	2.448E-04	0.00	1.812E-04	0.00	0.	0.	0.	0.
70 -100	2.490E-06	0.00	2.812E-06	0.00	2.735E-05	0.00	2.811E-06	0.00	3.330E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.741173 MICROMETERS

FREQUENCY = 930.997 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.376E-01	0.00	3.195E-01	0.00	5.360E-02	0.00	1.660E-01	0.00	2.274E-02	0.00	5.324E-03	4.495E-03	2.594E-02	2.190E-02
0 - 1	3.908E-01	0.00	2.346E-01	0.00	4.560E-02	0.00	1.254E-01	0.00	2.300E-02	0.00	3.634E-03	3.068E-03	1.636E-02	1.381E-02
1 - 2	2.159E-01	0.00	1.267E-01	0.00	3.432E-02	0.00	7.615E-02	0.00	2.123E-02	0.00	1.586E-03	1.339E-03	5.262E-03	4.443E-03
2 - 3	1.085E-01	0.00	7.003E-02	0.00	2.675E-02	0.00	4.961E-02	0.00	1.770E-02	0.00	6.766E-04	5.712E-04	1.829E-03	1.543E-03
3 - 4	5.434E-02	0.00	4.341E-02	0.00	2.036E-02	0.00	3.430E-02	0.00	1.444E-02	0.00	3.142E-04	2.653E-04	7.930E-04	6.742E-04
4 - 5	3.527E-02	0.00	2.956E-02	0.00	1.538E-02	0.00	2.442E-02	0.00	1.088E-02	0.00	1.956E-04	1.652E-04	2.915E-04	2.462E-04
5 - 6	2.622E-02	0.00	2.270E-02	0.00	1.177E-02	0.00	1.821E-02	0.00	8.052E-03	0.00	1.429E-04	1.207E-04	1.429E-04	1.207E-04
6 - 7	1.963E-02	0.00	1.610E-02	0.00	9.091E-03	0.00	1.310E-02	0.00	5.922E-03	0.00	1.151E-04	9.721E-05	1.151E-04	9.721E-05
7 - 8	1.487E-02	0.00	1.382E-02	0.00	6.943E-03	0.00	9.780E-03	0.00	4.302E-03	0.00	1.126E-04	9.511E-05	1.126E-04	9.511E-05
8 - 9	1.160E-02	0.00	1.035E-02	0.00	5.363E-03	0.00	7.215E-03	0.00	3.365E-03	0.00	1.120E-04	9.453E-05	1.120E-04	9.453E-05
9 - 10	8.670E-03	0.00	8.055E-03	0.00	3.918E-03	0.00	5.230E-03	0.00	3.079E-03	0.00	1.083E-04	9.141E-05	1.083E-04	9.141E-05
10 - 11	6.523E-03	0.00	6.147E-03	0.00	3.447E-03	0.00	4.405E-03	0.00	3.069E-03	0.00	1.035E-04	8.740E-05	1.035E-04	8.740E-05
11 - 12	4.814E-03	0.00	4.586E-03	0.00	3.312E-03	0.00	4.522E-03	0.00	3.060E-03	0.00	1.027E-04	8.669E-05	1.027E-04	8.669E-05
12 - 13	3.659E-03	0.00	3.327E-03	0.00	3.248E-03	0.00	4.336E-03	0.00	2.996E-03	0.00	1.011E-04	8.538E-05	1.011E-04	8.538E-05
13 - 14	2.449E-03	0.00	2.830E-03	0.00	3.224E-03	0.00	4.509E-03	0.00	3.123E-03	0.00	9.612E-05	8.116E-05	9.612E-05	8.116E-05
14 - 15	1.822E-03	0.00	2.951E-03	0.00	3.092E-03	0.00	4.481E-03	0.00	3.047E-03	0.00	9.221E-05	7.786E-05	9.221E-05	7.786E-05
15 - 16	1.261E-03	0.00	2.878E-03	0.00	2.991E-03	0.00	4.274E-03	0.00	2.997E-03	0.00	8.717E-05	7.360E-05	8.717E-05	7.360E-05
16 - 17	9.194E-04	0.00	2.834E-03	0.00	2.917E-03	0.00	4.458E-03	0.00	2.908E-03	0.00	8.449E-05	7.134E-05	8.449E-05	7.134E-05
17 - 18	9.965E-04	0.00	2.869E-03	0.00	2.897E-03	0.00	4.409E-03	0.00	2.813E-03	0.00	8.263E-05	6.976E-05	8.263E-05	6.976E-05
18 - 19	1.273E-03	0.00	2.913E-03	0.00	2.781E-03	0.00	4.394E-03	0.00	2.759E-03	0.00	7.469E-05	6.306E-05	7.469E-05	6.306E-05
19 - 20	1.584E-03	0.00	3.067E-03	0.00	2.695E-03	0.00	4.458E-03	0.00	2.634E-03	0.00	5.889E-05	4.972E-05	5.889E-05	4.972E-05
20 - 21	1.991E-03	0.00	3.184E-03	0.00	2.755E-03	0.00	4.347E-03	0.00	2.587E-03	0.00	4.296E-05	3.627E-05	4.296E-05	3.627E-05
21 - 22	2.464E-03	0.00	3.400E-03	0.00	2.758E-03	0.00	4.431E-03	0.00	2.489E-03	0.00	3.170E-05	2.677E-05	3.170E-05	2.677E-05
22 - 23	2.833E-03	0.00	3.582E-03	0.00	2.749E-03	0.00	4.431E-03	0.00	2.373E-03	0.00	2.405E-05	2.030E-05	2.405E-05	2.030E-05
23 - 24	3.125E-03	0.00	4.005E-03	0.00	2.732E-03	0.00	4.421E-03	0.00	2.400E-03	0.00	1.872E-05	1.580E-05	1.872E-05	1.580E-05
24 - 25	3.489E-03	0.00	4.033E-03	0.00	2.825E-03	0.00	4.765E-03	0.00	2.227E-03	0.00	1.527E-05	1.290E-05	1.527E-05	1.290E-05
25 - 30	4.488E-03	0.00	5.050E-03	0.00	2.760E-03	0.00	5.643E-03	0.00	2.409E-03	0.00	8.151E-06	6.882E-06	8.151E-06	6.882E-06
30 - 35	3.911E-03	0.00	4.439E-03	0.00	1.981E-03	0.00	8.414E-03	0.00	1.584E-03	0.00	2.327E-06	1.965E-06	2.327E-06	1.965E-06
35 - 40	3.610E-03	0.00	4.277E-03	0.00	1.981E-03	0.00	4.798E-03	0.00	1.414E-03	0.00	0.	0.	0.	0.
40 - 45	2.972E-03	0.00	3.683E-03	0.00	1.690E-03	0.00	4.220E-03	0.00	1.194E-03	0.00	0.	0.	0.	0.
45 - 50	2.069E-03	0.00	2.670E-03	0.00	1.453E-03	0.00	2.949E-03	0.00	9.563E-04	0.00	0.	0.	0.	0.
50 - 70	2.605E-04	0.00	3.174E-04	0.00	8.123E-05	0.00	3.224E-04	0.00	2.362E-04	0.00	0.	0.	0.	0.
70 -100	3.420E-06	0.00	3.866E-06	0.00	3.719E-05	0.00	3.8[illegible]E-06	0.00	4.476E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.718619 MICROMETERS

FREQUENCY = 932.956 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.566E-01	0.00	3.373E-01	0.00	6.495E-02	0.00	1.819E-01	0.00	3.019E-02	0.00	5.337E-03	4.509E-03	2.600E-02	2.197E-02
0 - 1	4.093E-01	0.00	2.521E-01	0.00	5.639E-02	0.00	1.405E-01	0.00	3.069E-02	0.00	3.642E-03	3.077E-03	1.640E-02	1.395E-02
1 - 2	2.329E-01	0.00	1.430E-01	0.00	4.422E-02	0.00	8.962E-02	0.00	2.879E-02	0.00	1.589E-03	1.343E-03	5.274E-03	4.455E-03
2 - 3	1.244E-01	0.00	8.478E-02	0.00	3.580E-02	0.00	6.148E-02	0.00	2.456E-02	0.00	5.781E-04	5.730E-04	1.832E-03	1.548E-03
3 - 4	6.875E-02	0.00	5.628E-02	0.00	2.830E-02	0.00	4.490E-02	0.00	2.056E-02	0.00	3.149E-04	2.661E-04	8.003E-04	6.762E-04
4 - 5	4.732E-02	0.00	4.034E-02	0.00	2.204E-02	0.00	3.340E-02	0.00	1.589E-02	0.00	1.961E-04	1.657E-04	2.923E-04	2.470E-04
5 - 6	3.643E-02	0.00	3.208E-02	0.00	1.724E-02	0.00	2.585E-02	0.00	1.202E-02	0.00	1.432E-04	1.210E-04	1.432E-04	1.210E-04
6 - 7	2.808E-02	0.00	2.615E-02	0.00	1.357E-02	0.00	1.908E-02	0.00	8.992E-03	0.00	1.154E-04	9.750E-05	1.154E-04	9.750E-05
7 - 8	2.175E-02	0.00	2.032E-02	0.00	1.053E-02	0.00	1.456E-02	0.00	6.642E-03	0.00	1.129E-04	9.540E-05	1.129E-04	9.540E-05
8 - 9	1.727E-02	0.00	1.544E-02	0.00	8.243E-03	0.00	1.094E-02	0.00	5.259E-03	0.00	1.122E-04	9.482E-05	1.122E-04	9.492E-05
9 - 10	1.309E-02	0.00	1.219E-02	0.00	6.095E-03	0.00	8.053E-03	0.00	4.835E-03	0.00	1.085E-04	9.168E-05	1.085E-04	9.158E-05
10 - 11	9.985E-03	0.00	9.426E-03	0.00	5.400E-03	0.00	6.838E-03	0.00	4.829E-03	0.00	1.037E-04	8.766E-05	1.037E-04	8.756E-05
11 - 12	7.458E-03	0.00	7.120E-03	0.00	5.200E-03	0.00	7.033E-03	0.00	4.821E-03	0.00	1.029E-04	8.695E-05	1.029E-04	8.695E-05
12 - 13	5.735E-03	0.00	5.228E-03	0.00	5.111E-03	0.00	6.754E-03	0.00	4.727E-03	0.00	1.014E-04	8.564E-05	1.014E-04	8.564E-05
13 - 14	3.886E-03	0.00	4.472E-03	0.00	5.083E-03	0.00	7.029E-03	0.00	4.931E-03	0.00	9.634E-05	8.140E-05	9.634E-05	8.140E-05
14 - 15	2.926E-03	0.00	4.667E-03	0.00	4.882E-03	0.00	6.991E-03	0.00	4.813E-03	0.00	9.242E-05	7.809E-05	9.242E-05	7.809E-05
15 - 16	2.050E-03	0.00	4.556E-03	0.00	4.728E-03	0.00	6.673E-03	0.00	4.739E-03	0.00	8.736E-05	7.382E-05	8.736E-05	7.382E-05
16 - 17	1.509E-03	0.00	4.488E-03	0.00	4.616E-03	0.00	6.962E-03	0.00	4.604E-03	0.00	8.468E-05	7.155E-05	8.468E-05	7.155E-05
17 - 18	1.632E-03	0.00	4.544E-03	0.00	4.591E-03	0.00	6.888E-03	0.00	4.459E-03	0.00	8.282E-05	6.997E-05	8.282E-05	6.997E-05
18 - 19	2.070E-03	0.00	4.612E-03	0.00	4.411E-03	0.00	6.867E-03	0.00	4.378E-03	0.00	7.486E-05	6.325E-05	7.486E-05	6.325E-05
19 - 20	2.557E-03	0.00	4.848E-03	0.00	4.277E-03	0.00	6.968E-03	0.00	4.186E-03	0.00	5.902E-05	4.987E-05	5.902E-05	4.987E-05
20 - 21	3.192E-03	0.00	5.026E-03	0.00	4.372E-03	0.00	6.794E-03	0.00	4.116E-03	0.00	4.306E-05	3.638E-05	4.306E-05	3.638E-05
21 - 22	3.925E-03	0.00	5.360E-03	0.00	4.378E-03	0.00	6.927E-03	0.00	3.963E-03	0.00	3.178E-05	2.685E-05	3.178E-05	2.685E-05
22 - 23	4.491E-03	0.00	5.635E-03	0.00	4.364E-03	0.00	6.927E-03	0.00	3.782E-03	0.00	2.410E-05	2.036E-05	2.410E-05	2.036E-05
23 - 24	4.939E-03	0.00	6.285E-03	0.00	4.337E-03	0.00	6.908E-03	0.00	3.829E-03	0.00	1.876E-05	1.585E-05	1.876E-05	1.585E-05
24 - 25	5.496E-03	0.00	6.320E-03	0.00	4.485E-03	0.00	7.429E-03	0.00	3.558E-03	0.00	1.531E-05	1.294E-05	1.531E-05	1.294E-05
25 - 30	7.002E-03	0.00	7.851E-03	0.00	4.373E-03	0.00	8.741E-03	0.00	3.835E-03	0.00	8.170E-06	6.903E-05	8.170E-06	6.903E-06
30 - 35	5.411E-03	0.00	6.147E-03	0.00	2.793E-03	0.00	1.287E-02	0.00	2.238E-03	0.00	2.333E-06	1.971E-05	2.333E-06	1.971E-06
35 - 40	4.779E-03	0.00	5.656E-03	0.00	2.658E-03	0.00	6.324E-03	0.00	1.912E-03	0.00	0.	0.	0.	0.
40 - 45	3.819E-03	0.00	4.715E-03	0.00	2.447E-03	0.00	5.381E-03	0.00	1.563E-03	0.00	0.	0.	0.	0.
45 - 50	2.613E-03	0.00	3.354E-03	0.00	1.341E-03	0.00	3.697E-03	0.00	1.223E-03	0.00	0.	0.	0.	0.
50 - 70	3.356E-04	0.00	4.079E-04	0.00	1.041E-04	0.00	4.147E-04	0.00	3.010E-04	0.00	0.	0.	0.	0.
70 - 100	4.582E-06	0.00	5.183E-06	0.00	4.936E-05	0.00	5.201E-06	0.00	5.874E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.696446 MICROMETERS

FREQUENCY = 934.890 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.724E-01	0.00	3.516E-01	0.00	7.367E-02	0.00	1.943E-01	0.00	3.601E-02	0.00	5.348E-03	4.522E-03	2.506E-02	2.204E-02
0 - 1	4.242E-01	0.00	2.657E-01	0.00	6.467E-02	0.00	1.522E-01	0.00	3.667E-02	0.00	3.650E-03	3.087E-03	1.643E-02	1.399E-02
1 - 2	2.462E-01	0.00	1.553E-01	0.00	5.176E-02	0.00	9.936E-02	0.00	3.464E-02	0.00	1.593E-03	1.347E-03	5.236E-03	4.459E-03
2 - 3	1.363E-01	0.00	9.575E-02	0.00	4.268E-02	0.00	7.042E-02	0.00	2.988E-02	0.00	6.796E-04	5.747E-04	1.835E-03	1.553E-03
3 - 4	7.932E-02	0.00	6.578E-02	0.00	3.435E-02	0.00	5.284E-02	0.00	2.532E-02	0.00	3.156E-04	2.669E-04	8.021E-04	6.792E-04
4 - 5	5.616E-02	0.00	4.829E-02	0.00	2.715E-02	0.00	4.014E-02	0.00	1.982E-02	0.00	1.965E-04	1.662E-04	2.930E-04	2.477E-04
5 - 6	4.395E-02	0.00	3.904E-02	0.00	2.148E-02	0.00	3.163E-02	0.00	1.518E-02	0.00	1.436E-04	1.214E-04	1.435E-04	1.214E-04
6 - 7	3.437E-02	0.00	3.217E-02	0.00	1.710E-02	0.00	2.367E-02	0.00	1.148E-02	0.00	1.157E-04	9.779E-05	1.157E-04	9.779E-05
7 - 8	2.694E-02	0.00	2.524E-02	0.00	1.340E-02	0.00	1.828E-02	0.00	8.573E-03	0.00	1.132E-04	9.568E-05	1.132E-04	9.568E-05
8 - 9	2.160E-02	0.00	1.936E-02	0.00	1.057E-02	0.00	1.390E-02	0.00	6.843E-03	0.00	1.125E-04	9.510E-05	1.125E-04	9.510E-05
9 - 10	1.653E-02	0.00	1.542E-02	0.00	7.887E-03	0.00	1.033E-02	0.00	6.308E-03	0.00	1.088E-04	9.195E-05	1.038E-04	9.195E-05
10 - 11	1.273E-02	0.00	1.204E-02	0.00	7.022E-03	0.00	8.820E-03	0.00	6.300E-03	0.00	1.040E-04	8.792E-05	1.040E-04	8.792E-05
11 - 12	9.595E-03	0.00	9.178E-03	0.00	6.767E-03	0.00	9.073E-03	0.00	6.291E-03	0.00	1.031E-04	8.721E-05	1.031E-04	8.721E-05
12 - 13	7.448E-03	0.00	6.803E-03	0.00	6.657E-03	0.00	8.714E-03	0.00	6.168E-03	0.00	1.016E-04	8.590E-05	1.015E-04	8.590E-05
13 - 14	5.100E-03	0.00	5.847E-03	0.00	6.626E-03	0.00	9.070E-03	0.00	6.434E-03	0.00	9.656E-05	8.164E-05	9.655E-05	8.154E-05
14 - 15	3.880E-03	0.00	6.102E-03	0.00	6.368E-03	0.00	9.020E-03	0.00	6.281E-03	0.00	9.263E-05	7.832E-05	9.258E-05	7.832E-05
15 - 16	2.749E-03	0.00	5.956E-03	0.00	6.172E-03	0.00	8.610E-03	0.00	6.187E-03	0.00	8.756E-05	7.404E-05	8.755E-05	7.404E-05
16 - 17	2.039E-03	0.00	5.867E-03	0.00	6.031E-03	0.00	8.983E-03	0.00	6.016E-03	0.00	8.487E-05	7.176E-05	8.437E-05	7.175E-05
17 - 18	2.203E-03	0.00	5.941E-03	0.00	6.002E-03	0.00	8.888E-03	0.00	5.832E-03	0.00	8.300E-05	7.018E-05	8.300E-05	7.018E-05
18 - 19	2.773E-03	0.00	6.025E-03	0.00	5.771E-03	0.00	8.860E-03	0.00	5.732E-03	0.00	7.503E-05	6.344E-05	7.503E-05	6.344E-05
19 - 20	3.403E-03	0.00	6.324E-03	0.00	5.598E-03	0.00	8.991E-03	0.00	5.485E-03	0.00	5.915E-05	5.002E-05	5.915E-05	5.002E-05
20 - 21	4.219E-03	0.00	6.546E-03	0.00	5.722E-03	0.00	8.767E-03	0.00	5.398E-03	0.00	4.316E-05	3.649E-05	4.315E-05	3.549E-05
21 - 22	5.155E-03	0.00	6.970E-03	0.00	5.731E-03	0.00	8.938E-03	0.00	5.202E-03	0.00	3.185E-05	2.693E-05	3.136E-05	2.593E-05
22 - 23	5.872E-03	0.00	7.312E-03	0.00	5.712E-03	0.00	8.938E-03	0.00	4.970E-03	0.00	2.416E-05	2.043E-05	2.416E-05	2.043E-05
23 - 24	6.437E-03	0.00	8.138E-03	0.00	5.677E-03	0.00	8.907E-03	0.00	5.037E-03	0.00	1.880E-05	1.590E-05	1.830E-05	1.590E-05
24 - 25	7.143E-03	0.00	8.172E-03	0.00	5.871E-03	0.00	9.559E-03	0.00	4.684E-03	0.00	1.534E-05	1.297E-05	1.534E-05	1.297E-05
25 - 30	9.017E-03	0.00	1.007E-02	0.00	5.715E-03	0.00	1.118E-02	0.00	5.032E-03	0.00	8.188E-06	6.924E-06	8.138E-06	6.924E-06
30 - 35	6.859E-03	0.00	7.773E-03	0.00	3.611E-03	0.00	1.626E-02	0.00	2.908E-03	0.00	2.338E-06	1.977E-06	2.339E-06	1.977E-06
35 - 40	5.977E-03	0.00	7.049E-03	0.00	3.377E-03	0.00	7.856E-03	0.00	2.452E-03	0.00	0.	0.	0.	0.
40 - 45	4.718E-03	0.00	5.798E-03	0.00	3.052E-03	0.00	6.569E-03	0.00	1.972E-03	0.00	0.	0.	0.	0.
45 - 50	3.201E-03	0.00	4.088E-03	0.00	2.268E-03	0.00	4.495E-03	0.00	1.521E-03	0.00	0.	0.	0.	0.
50 - 70	4.215E-04	0.00	5.108E-04	0.00	1.302E-04	0.00	5.196E-04	0.00	3.746E-04	0.00	0.	0.	0.	0.
70 - 100	5.991E-06	0.00	6.783E-06	0.00	6.397E-05	0.00	6.816E-06	0.00	7.535E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.674637 MICROMETERS

FREQUENCY = 936.800 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.884E-01	0.00	3.674E-01	0.00	8.520E-02	0.00	2.093E-01	0.00	4.396E-02	0.00	5.360E-03	4.536E-03	2.612E-02	2.210E-02
0 - 1	4.401E-01	0.00	2.816E-01	0.00	7.563E-02	0.00	1.667E-01	0.00	4.481E-02	0.00	3.658E-03	3.096E-03	1.647E-02	1.393E-02
1 - 2	2.615E-01	0.00	1.704E-01	0.00	6.180E-02	0.00	1.129E-01	0.00	4.255E-02	0.00	1.596E-03	1.351E-03	5.299E-03	4.492E-03
2 - 3	1.510E-01	0.00	1.097E-01	0.00	5.185E-02	0.00	8.199E-02	0.00	3.703E-02	0.00	6.812E-04	5.763E-04	1.840E-03	1.557E-03
3 - 4	9.294E-02	0.00	7.815E-02	0.00	4.241E-02	0.00	6.324E-02	0.00	3.170E-02	0.00	3.163E-04	2.677E-04	9.039E-04	5.902E-04
4 - 5	6.771E-02	0.00	5.875E-02	0.00	3.397E-02	0.00	4.901E-02	0.00	2.509E-02	0.00	1.970E-04	1.667E-04	2.935E-04	2.484E-04
5 - 6	5.384E-02	0.00	4.822E-02	0.00	2.713E-02	0.00	3.927E-02	0.00	1.941E-02	0.00	1.439E-04	1.217E-04	1.439E-04	1.217E-04
6 - 7	4.265E-02	0.00	4.012E-02	0.00	2.179E-02	0.00	2.974E-02	0.00	1.481E-02	0.00	1.159E-04	9.807E-05	1.159E-04	9.807E-05
7 - 8	3.379E-02	0.00	3.175E-02	0.00	1.721E-02	0.00	2.322E-02	0.00	1.117E-02	0.00	1.134E-04	9.596E-05	1.134E-04	9.595E-05
8 - 9	2.732E-02	0.00	2.454E-02	0.00	1.369E-02	0.00	1.782E-02	0.00	8.973E-03	0.00	1.127E-04	9.538E-05	1.127E-04	9.538E-05
9 - 10	2.108E-02	0.00	1.970E-02	0.00	1.029E-02	0.00	1.337E-02	0.00	8.289E-03	0.00	1.090E-04	9.222E-05	1.090E-04	9.222E-05
10 - 11	1.637E-02	0.00	1.551E-02	0.00	9.197E-03	0.00	1.147E-02	0.00	8.277E-03	0.00	1.042E-04	8.818E-05	1.042E-04	8.818E-05
11 - 12	1.244E-02	0.00	1.192E-02	0.00	8.867E-03	0.00	1.179E-02	0.00	8.264E-03	0.00	1.034E-04	8.747E-05	1.034E-04	8.747E-05
12 - 13	9.739E-03	0.00	8.914E-03	0.00	8.729E-03	0.00	1.133E-02	0.00	8.101E-03	0.00	1.018E-04	8.615E-05	1.019E-04	8.615E-05
13 - 14	6.734E-03	0.00	7.692E-03	0.00	8.693E-03	0.00	1.179E-02	0.00	8.450E-03	0.00	9.677E-05	8.180E-05	9.677E-05	8.188E-05
14 - 15	5.173E-03	0.00	8.027E-03	0.00	8.359E-03	0.00	1.172E-02	0.00	8.248E-03	0.00	9.284E-05	7.855E-05	9.234E-05	7.855E-05
15 - 16	3.702E-03	0.00	7.834E-03	0.00	8.107E-03	0.00	1.119E-02	0.00	8.128E-03	0.00	8.775E-05	7.425E-05	8.775E-05	7.425E-05
16 - 17	2.767E-03	0.00	7.717E-03	0.00	7.927E-03	0.00	1.167E-02	0.00	7.909E-03	0.00	8.506E-05	7.197E-05	8.506E-05	7.197E-05
17 - 18	2.984E-03	0.00	7.813E-03	0.00	7.895E-03	0.00	1.155E-02	0.00	7.673E-03	0.00	8.319E-05	7.039E-05	8.319E-05	7.039E-05
18 - 19	3.731E-03	0.00	7.919E-03	0.00	7.546E-03	0.00	1.151E-02	0.00	7.548E-03	0.00	7.519E-05	6.362E-05	7.519E-05	6.362E-05
19 - 20	4.549E-03	0.00	8.300E-03	0.00	7.371E-03	0.00	1.168E-02	0.00	7.230E-03	0.00	5.929E-05	5.016E-05	5.929E-05	5.016E-05
20 - 21	5.606E-03	0.00	8.579E-03	0.00	7.534E-03	0.00	1.139E-02	0.00	7.121E-03	0.00	4.325E-05	3.660E-05	4.325E-05	3.660E-05
21 - 22	6.808E-03	0.00	9.122E-03	0.00	7.545E-03	0.00	1.161E-02	0.00	6.868E-03	0.00	3.192E-05	2.701E-05	3.192E-05	2.701E-05
22 - 23	7.722E-03	0.00	9.549E-03	0.00	7.520E-03	0.00	1.161E-02	0.00	6.567E-03	0.00	2.421E-05	2.048E-05	2.421E-05	2.048E-05
23 - 24	8.441E-03	0.00	1.061E-02	0.00	7.474E-03	0.00	1.156E-02	0.00	6.661E-03	0.00	1.884E-05	1.594E-05	1.834E-05	1.594E-05
24 - 25	9.341E-03	0.00	1.064E-02	0.00	7.729E-03	0.00	1.239E-02	0.00	6.200E-03	0.00	1.538E-05	1.301E-05	1.538E-05	1.301E-05
25 - 30	1.169E-02	0.00	1.302E-02	0.00	7.512E-03	0.00	1.440E-02	0.00	6.641E-03	0.00	8.206E-06	6.944E-05	8.206E-06	6.944E-06
30 - 35	8.585E-03	0.00	9.713E-03	0.00	4.604E-03	0.00	2.071E-02	0.00	3.723E-03	0.00	2.343E-06	1.983E-06	2.343E-06	1.983E-06
35 - 40	7.349E-03	0.00	8.644E-03	0.00	4.212E-03	0.00	9.603E-03	0.00	3.083E-03	0.00	0.	0.	0.	0.
40 - 45	5.718E-03	0.00	6.998E-03	0.00	3.730E-03	0.00	7.924E-03	0.00	2.436E-03	0.00	0.	0.	0.	0.
45 - 50	3.844E-03	0.00	4.885E-03	0.00	2.737E-03	0.00	5.360E-03	0.00	1.852E-03	0.00	0.	0.	0.	0.
50 - 70	5.176E-04	0.00	6.255E-04	0.00	1.592E-04	0.00	6.366E-04	0.00	4.559E-04	0.00	0.	0.	0.	0.
70 - 100	7.635E-06	0.00	8.650E-06	0.00	8.084E-05	0.00	8.705E-06	0.00	9.429E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.653212 MICROMETERS

FREQUENCY = 938.684 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.830E-01	0.00	3.642E-01	0.00	8.527E-02	0.00	2.077E-01	0.00	4.465E-02	0.00	5.372E-03	4.549E-03	2.619E-02	2.215E-02
0 - 1	4.362E-01	0.00	2.792E-01	0.00	7.588E-02	0.00	1.657E-01	0.00	4.552E-02	0.00	3.666E-03	3.104E-03	1.650E-02	1.397E-02
1 - 2	2.596E-01	0.00	1.694E-01	0.00	6.234E-02	0.00	1.127E-01	0.00	4.335E-02	0.00	1.600E-03	1.355E-03	5.309E-03	4.495E-03
2 - 3	1.503E-01	0.00	1.096E-01	0.00	5.261E-02	0.00	8.235E-02	0.00	3.794E-02	0.00	6.826E-04	5.780E-04	1.844E-03	1.562E-03
3 - 4	9.309E-02	0.00	7.856E-02	0.00	4.334E-02	0.00	6.395E-02	0.00	3.269E-02	0.00	3.170E-04	2.684E-04	8.055E-04	6.821E-04
4 - 5	6.835E-02	0.00	5.950E-02	0.00	3.500E-02	0.00	4.993E-02	0.00	2.609E-02	0.00	1.974E-04	1.671E-04	2.942E-04	2.491E-04
5 - 6	5.475E-02	0.00	4.920E-02	0.00	2.818E-02	0.00	4.034E-02	0.00	2.037E-02	0.00	1.442E-04	1.221E-04	1.442E-04	1.221E-04
6 - 7	4.371E-02	0.00	4.123E-02	0.00	2.281E-02	0.00	3.082E-02	0.00	1.569E-02	0.00	1.162E-04	9.836E-05	1.152E-04	9.835E-05
7 - 8	3.491E-02	0.00	3.287E-02	0.00	1.816E-02	0.00	2.427E-02	0.00	1.193E-02	0.00	1.137E-04	9.624E-05	1.137E-04	9.624E-05
8 - 9	2.845E-02	0.00	2.560E-02	0.00	1.455E-02	0.00	1.879E-02	0.00	9.659E-03	0.00	1.130E-04	9.565E-05	1.130E-04	9.556E-05
9 - 10	2.211E-02	0.00	2.072E-02	0.00	1.102E-02	0.00	1.423E-02	0.00	8.947E-03	0.00	1.092E-04	9.249E-05	1.092E-04	9.249E-05
10 - 11	1.732E-02	0.00	1.643E-02	0.00	9.900E-03	0.00	1.226E-02	0.00	8.937E-03	0.00	1.044E-04	8.843E-05	1.044E-04	8.843E-05
11 - 12	1.327E-02	0.00	1.274E-02	0.00	9.554E-03	0.00	1.261E-02	0.00	8.925E-03	0.00	1.036E-04	8.772E-05	1.035E-04	8.772E-05
12 - 13	1.047E-02	0.00	9.605E-03	0.00	9.413E-03	0.00	1.211E-02	0.00	8.751E-03	0.00	1.020E-04	8.639E-05	1.020E-04	8.639E-05
13 - 14	7.309E-03	0.00	8.322E-03	0.00	9.381E-03	0.00	1.261E-02	0.00	9.129E-03	0.00	9.698E-05	8.212E-05	9.698E-05	8.212E-05
14 - 15	5.667E-03	0.00	8.685E-03	0.00	9.029E-03	0.00	1.254E-02	0.00	8.912E-03	0.00	9.304E-05	7.878E-05	9.304E-05	7.879E-05
15 - 16	4.096E-03	0.00	8.478E-03	0.00	8.763E-03	0.00	1.197E-02	0.00	8.786E-03	0.00	8.795E-05	7.447E-05	8.795E-05	7.447E-05
16 - 17	3.083E-03	0.00	8.352E-03	0.00	8.574E-03	0.00	1.249E-02	0.00	8.557E-03	0.00	8.525E-05	7.218E-05	8.525E-05	7.219E-05
17 - 18	3.320E-03	0.00	8.457E-03	0.00	8.545E-03	0.00	1.236E-02	0.00	8.308E-03	0.00	8.337E-05	7.059E-05	8.337E-05	7.059E-05
18 - 19	4.125E-03	0.00	8.565E-03	0.00	8.227E-03	0.00	1.232E-02	0.00	8.179E-03	0.00	7.536E-05	6.381E-05	7.535E-05	6.381E-05
19 - 20	5.000E-03	0.00	8.966E-03	0.00	7.987E-03	0.00	1.250E-02	0.00	7.841E-03	0.00	5.942E-05	5.031E-05	5.942E-05	5.031E-05
20 - 21	6.127E-03	0.00	9.256E-03	0.00	8.164E-03	0.00	1.219E-02	0.00	7.730E-03	0.00	4.335E-05	3.670E-05	4.335E-05	3.670E-05
21 - 22	7.399E-03	0.00	9.829E-03	0.00	8.176E-03	0.00	1.243E-02	0.00	7.461E-03	0.00	3.199E-05	2.708E-05	3.199E-05	2.708E-05
22 - 23	8.358E-03	0.00	1.027E-02	0.00	8.148E-03	0.00	1.243E-02	0.00	7.140E-03	0.00	2.426E-05	2.054E-05	2.425E-05	2.054E-05
23 - 24	9.113E-03	0.00	1.139E-02	0.00	8.099E-03	0.00	1.237E-02	0.00	7.248E-03	0.00	1.888E-05	1.599E-05	1.838E-05	1.599E-05
24 - 25	1.006E-02	0.00	1.140E-02	0.00	8.376E-03	0.00	1.322E-02	0.00	6.752E-03	0.00	1.541E-05	1.305E-05	1.541E-05	1.305E-05
25 - 30	1.249E-02	0.00	1.387E-02	0.00	8.128E-03	0.00	1.530E-02	0.00	7.211E-03	0.00	8.224E-06	6.964E-06	8.224E-06	6.964E-06
30 - 35	9.858E-03	0.00	1.110E-02	0.00	5.389E-03	0.00	2.177E-02	0.00	4.388E-03	0.00	2.348E-06	1.988E-06	2.348E-06	1.998E-06
35 - 40	8.535E-03	0.00	9.992E-03	0.00	4.973E-03	0.00	1.107E-02	0.00	3.674E-03	0.00	0.	0.	0.	0.
40 - 45	6.658E-03	0.09	8.107E-03	0.00	4.388E-03	0.00	9.147E-03	0.00	2.898E-03	0.00	0.	0.	0.	0.
45 - 50	4.474E-03	0.00	5.656E-03	0.00	3.205E-03	0.00	6.193E-03	0.00	2.188E-03	0.00	0.	0.	0.	0.
50 - 70	6.184E-04	0.00	7.452E-04	0.00	1.896E-04	0.00	7.587E-04	0.00	5.409E-04	0.00	0.	0.	0.	0.
70 -100	9.480E-06	0.00	1.075E-05	0.00	9.959E-05	0.00	1.083E-05	0.00	1.151E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 0.632145 MICROMETERS

FREQUENCY = 940.544 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL			
											CLEAR		HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	6.029E-01	0.00	3.815E-01	0.00	9.554E-02	0.00	2.223E-01	0.00	5.172E-02	0.00	5.384E-03	4.561E-03	2.623E-02	2.223E-02
0 - 1	4.543E-01	0.00	2.954E-01	0.00	8.562E-02	0.00	1.793E-01	0.00	5.277E-02	0.00	3.574E-03	3.113E-03	1.654E-02	1.401E-02
1 - 2	2.750E-01	0.00	1.836E-01	0.00	7.128E-02	0.00	1.246E-01	0.00	5.045E-02	0.00	1.503E-03	1.359E-03	5.320E-03	4.503E-03
2 - 3	1.640E-01	0.00	1.221E-01	0.00	6.082E-02	0.00	9.278E-02	0.00	4.445E-02	0.00	6.841E-04	5.796E-04	1.848E-03	1.556E-03
3 - 4	1.052E-01	0.00	8.953E-02	0.00	5.065E-02	0.00	7.330E-02	0.00	3.860E-02	0.00	3.177E-04	2.692E-04	8.074E-04	6.841E-04
4 - 5	7.861E-02	0.00	6.882E-02	0.00	4.131E-02	0.00	5.798E-02	0.00	3.108E-02	0.00	1.978E-04	1.676E-04	2.949E-04	2.499E-04
5 - 6	6.365E-02	0.00	5.749E-02	0.00	3.352E-02	0.00	4.739E-02	0.00	2.448E-02	0.00	1.445E-04	1.224E-04	1.445E-04	1.224E-04
6 - 7	5.129E-02	0.00	4.854E-02	0.00	2.734E-02	0.00	3.654E-02	0.00	1.900E-02	0.00	1.164E-04	9.863E-05	1.164E-04	9.863E-05
7 - 8	4.131E-02	0.00	3.898E-02	0.00	2.192E-02	0.00	2.903E-02	0.00	1.458E-02	0.00	1.139E-04	9.651E-05	1.139E-04	9.651E-05
8 - 9	3.390E-02	0.00	3.058E-02	0.00	1.769E-02	0.00	2.266E-02	0.00	1.189E-02	0.00	1.132E-04	9.592E-05	1.132E-04	9.592E-05
9 - 10	2.654E-02	0.00	2.491E-02	0.00	1.349E-02	0.00	1.730E-02	0.00	1.102E-02	0.00	1.095E-04	9.275E-05	1.095E-04	9.275E-05
10 - 11	2.095E-02	0.00	1.990E-02	0.00	1.217E-02	0.00	1.496E-02	0.00	1.101E-02	0.00	1.047E-04	8.868E-05	1.047E-04	8.868E-05
11 - 12	1.616E-02	0.00	1.554E-02	0.00	1.175E-02	0.00	1.540E-02	0.00	1.100E-02	0.00	1.039E-04	8.797E-05	1.038E-04	8.797E-05
12 - 13	1.285E-02	0.00	1.[illegible]81E-02	0.00	1.158E-02	0.00	1.479E-02	0.00	1.078E-02	0.00	1.023E-04	8.664E-05	1.023E-04	8.664E-05
13 - 14	9.049E-03	0.00	1.027E-02	0.00	1.155E-02	0.00	1.540E-02	0.00	1.125E-02	0.00	9.719E-05	8.235E-05	9.719E-05	8.235E-05
14 - 15	7.075E-03	0.00	1.072E-02	0.00	1.112E-02	0.00	1.531E-02	0.00	1.098E-02	0.00	9.324E-05	7.900E-05	9.324E-05	7.900E-05
15 - 16	5.160E-03	0.00	1.046E-02	0.00	1.080E-02	0.00	1.462E-02	0.00	1.083E-02	0.00	8.813E-05	7.468E-05	8.813E-05	7.468E-05
16 - 17	3.910E-03	0.00	1.031E-02	0.00	1.058E-02	0.00	1.525E-02	0.00	1.056E-02	0.00	8.543E-05	7.238E-05	8.543E-05	7.238E-05
17 - 18	4.203E-03	0.00	1.044E-02	0.00	1.055E-02	0.00	1.509E-02	0.00	1.026E-02	0.00	8.355E-05	7.079E-05	8.355E-05	7.079E-05
18 - 19	5.193E-03	0.00	1.056E-02	0.00	1.016E-02	0.00	1.504E-02	0.00	1.011E-02	0.00	7.552E-05	6.399E-05	7.552E-05	6.399E-05
19 - 20	6.259E-03	0.00	1.104E-02	0.00	9.867E-03	0.00	1.526E-02	0.00	9.695E-03	0.00	5.954E-05	5.045E-05	5.954E-05	5.045E-05
20 - 21	7.629E-03	0.00	1.139E-02	0.00	1.009E-02	0.00	1.488E-02	0.00	9.566E-03	0.00	4.344E-05	3.681E-05	4.344E-05	3.681E-05
21 - 22	9.166E-03	0.00	1.208E-02	0.00	1.010E-02	0.00	1.517E-02	0.00	9.239E-03	0.00	3.206E-05	2.716E-05	3.206E-05	2.716E-05
22 - 23	1.032E-02	0.00	1.260E-02	0.00	1.007E-02	0.00	1.517E-02	0.00	8.848E-03	0.00	2.431E-05	2.060E-05	2.431E-05	2.060E-05
23 - 24	1.122E-02	0.00	1.394E-02	0.00	1.001E-02	0.00	1.509E-02	0.00	8.989E-03	0.00	1.892E-05	1.603E-05	1.892E-05	1.603E-05
24 - 25	1.235E-02	0.00	1.395E-02	0.00	1.035E-02	0.00	1.611E-02	0.00	6.380E-03	0.00	1.544E-05	1.309E-05	1.544E-05	1.309E-05
25 - 30	1.522E-02	0.00	1.686E-02	0.00	1.003E-02	0.00	1.855E-02	0.00	8.927E-03	0.00	8.242E-06	6.983E-06	8.242E-06	6.983E-06
30 - 35	1.171E-02	0.00	1.316E-02	0.00	6.503E-03	0.00	2.614E-02	0.00	5.315E-03	0.00	2.353E-06	1.994E-06	2.353E-06	1.994E-05
35 - 40	9.991E-03	0.00	1.167E-02	0.00	5.893E-03	0.00	1.289E-02	0.00	4.386E-03	0.00	0.	0.	0.	0.
40 - 45	7.700E-03	0.00	9.343E-03	0.00	5.113E-03	0.00	1.051E-02	0.00	3.407E-03	0.00	0.	0.	0.	0.
45 - 50	5.134E-03	0.00	6.463E-03	0.00	3.693E-03	0.00	7.063E-03	0.00	2.541E-03	0.00	0.	0.	0.	0.
50 - 70	7.235E-04	0.00	8.698E-04	0.00	2.210E-04	0.00	8.860E-04	0.00	6.280E-04	0.00	0.	0.	0.	0.
70 - 100	1.145E-05	0.00	1.299E-05	0.00	1.195E-04	0.00	1.311E-05	0.00	1.369E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.611431 MICROMETERS

FREQUENCY = 942.380 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	6.058E-01	0.00	3.867E-01	0.00	1.021E-01	0.00	2.290E-01	0.00	5.688E-02	0.00	5.395E-03	4.574E-03	2.629E-02	2.229E-02
0 - 1	4.589E-01	0.00	3.017E-01	0.00	9.204E-02	0.00	1.864E-01	0.00	5.804E-02	0.00	3.582E-03	3.122E-03	1.657E-02	1.405E-02
1 - 2	2.816E-01	0.00	1.910E-01	0.00	7.745E-02	0.00	1.317E-01	0.00	5.567E-02	0.00	1.507E-03	1.362E-03	5.332E-03	4.521E-03
2 - 3	1.716E-01	0.00	1.298E-01	0.00	6.669E-02	0.00	9.961E-02	0.00	4.934E-02	0.00	6.855E-04	5.813E-04	1.852E-03	1.570E-03
3 - 4	1.130E-01	0.00	9.688E-02	0.00	5.605E-02	0.00	7.981E-02	0.00	4.311E-02	0.00	3.184E-04	2.700E-04	8.091E-04	6.350E-04
4 - 5	8.369E-02	0.00	7.538E-02	0.00	4.608E-02	0.00	6.381E-02	0.00	3.497E-02	0.00	1.982E-04	1.681E-04	2.955E-04	2.505E-04
5 - 6	7.003E-02	0.00	6.353E-02	0.00	3.765E-02	0.00	5.266E-02	0.00	2.775E-02	0.00	1.449E-04	1.228E-04	1.448E-04	1.228E-04
6 - 7	5.689E-02	0.00	5.400E-02	0.00	3.091E-02	0.00	4.093E-02	0.00	2.170E-02	0.00	1.167E-04	9.891E-05	1.167E-04	9.891E-05
7 - 8	4.616E-02	0.00	4.364E-02	0.00	2.494E-02	0.00	3.276E-02	0.00	1.677E-02	0.00	1.141E-04	9.678E-05	1.141E-04	9.678E-05
8 - 9	3.813E-02	0.00	3.445E-02	0.00	2.025E-02	0.00	2.577E-02	0.00	1.374E-02	0.00	1.134E-04	9.619E-05	1.134E-04	9.619E-05
9 - 10	3.004E-02	0.00	2.824E-02	0.00	1.555E-02	0.00	1.981E-02	0.00	1.278E-02	0.00	1.097E-04	9.301E-05	1.097E-04	9.301E-05
10 - 11	2.387E-02	0.00	2.271E-02	0.00	1.407E-02	0.00	1.720E-02	0.00	1.277E-02	0.00	1.049E-04	8.893E-05	1.049E-04	8.893E-05
11 - 12	1.854E-02	0.00	1.786E-02	0.00	1.359E-02	0.00	1.770E-02	0.00	1.275E-02	0.00	1.040E-04	8.821E-05	1.040E-04	8.821E-05
12 - 13	1.485E-02	0.00	1.366E-02	0.00	1.341E-02	0.00	1.700E-02	0.00	1.250E-02	0.00	1.025E-04	8.688E-05	1.025E-04	8.688E-05
13 - 14	1.053E-02	0.00	1.192E-02	0.00	1.338E-02	0.00	1.770E-02	0.00	1.304E-02	0.00	9.739E-05	8.258E-05	9.739E-05	8.259E-05
14 - 15	8.301E-03	0.00	1.244E-02	0.00	1.289E-02	0.00	1.760E-02	0.00	1.273E-02	0.00	9.344E-05	7.922E-05	9.344E-05	7.922E-05
15 - 16	6.104E-03	0.00	1.215E-02	0.00	1.253E-02	0.00	1.680E-02	0.00	1.256E-02	0.00	8.832E-05	7.488E-05	8.832E-05	7.488E-05
16 - 17	4.653E-03	0.00	1.197E-02	0.00	1.227E-02	0.00	1.753E-02	0.00	1.225E-02	0.00	8.561E-05	7.259E-05	8.561E-05	7.259E-05
17 - 18	4.995E-03	0.00	1.212E-02	0.00	1.224E-02	0.00	1.735E-02	0.00	1.191E-02	0.00	8.372E-05	7.099E-05	8.372E-05	7.099E-05
18 - 19	6.139E-03	0.00	1.226E-02	0.00	1.180E-02	0.00	1.729E-02	0.00	1.174E-02	0.00	7.568E-05	6.417E-05	7.568E-05	6.417E-05
19 - 20	7.362E-03	0.00	1.280E-02	0.00	1.146E-02	0.00	1.755E-02	0.00	1.128E-02	0.00	5.967E-05	5.059E-05	5.967E-05	5.059E-05
20 - 21	8.929E-03	0.00	1.318E-02	0.00	1.172E-02	0.00	1.711E-02	0.00	1.113E-02	0.00	4.353E-05	3.691E-05	4.353E-05	3.691E-05
21 - 22	1.068E-02	0.00	1.397E-02	0.00	1.174E-02	0.00	1.744E-02	0.00	1.075E-02	0.00	3.212E-05	2.724E-05	3.212E-05	2.724E-05
22 - 23	1.198E-02	0.00	1.455E-02	0.00	1.170E-02	0.00	1.744E-02	0.00	1.031E-02	0.00	2.437E-05	2.066E-05	2.437E-05	2.066E-05
23 - 24	1.300E-02	0.00	1.607E-02	0.00	1.163E-02	0.00	1.734E-02	0.00	1.048E-02	0.00	1.896E-05	1.608E-05	1.896E-05	1.608E-05
24 - 25	1.428E-02	0.00	1.606E-02	0.00	1.202E-02	0.00	1.848E-02	0.00	9.779E-03	0.00	1.548E-05	1.312E-05	1.548E-05	1.312E-05
25 - 30	1.747E-02	0.00	1.930E-02	0.00	1.164E-02	0.00	2.118E-02	0.00	1.039E-02	0.00	8.259E-06	7.003E-06	8.259E-06	7.003E-06
30 - 35	1.339E-02	0.00	1.501E-02	0.00	7.542E-03	0.00	2.958E-02	0.00	6.189E-03	0.00	2.358E-06	1.999E-06	2.358E-06	1.999E-06
35 - 40	1.132E-02	0.00	1.319E-02	0.00	6.759E-03	0.00	1.453E-02	0.00	5.065E-03	0.00	0.	0.	0.	0.
40 - 45	8.656E-03	0.00	1.047E-02	0.00	5.789E-03	0.00	1.173E-02	0.00	3.892E-03	0.00	0.	0.	0.	0.
45 - 50	5.739E-03	0.00	7.197E-03	0.00	4.146E-03	0.00	7.851E-03	0.00	2.873E-03	0.00	0.	0.	0.	0.
50 - 70	8.242E-04	0.00	9.888E-04	0.00	2.510E-04	0.00	1.008E-03	0.00	7.107E-04	0.00	0.	0.	0.	0.
70 -100	1.345E-05	0.00	1.527E-05	0.00	1.394E-04	0.00	1.542E-05	0.00	1.585E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.591089 MICROMETERS

FREQUENCY = 944.190 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	6.094E-01	0.00	3.852E-01	0.00	9.575E-02	0.00	2.238E-01	0.00	5.214E-02	0.00	5.406E-03	4.587E-03	2.634E-02	2.235E-02
0 - 1	4.586E-01	0.00	2.977E-01	0.00	8.576E-02	0.00	1.802E-01	0.00	5.315E-02	0.00	3.690E-03	3.130E-03	1.651E-02	1.409E-02
1 - 2	2.766E-01	0.00	1.841E-01	0.00	7.137E-02	0.00	1.247E-01	0.00	5.083E-02	0.00	1.610E-03	1.366E-03	5.343E-03	4.533E-03
2 - 3	1.640E-01	0.00	1.218E-01	0.00	6.096E-02	0.00	9.268E-02	0.00	4.492E-02	0.00	6.870E-04	5.828E-04	1.855E-03	1.575E-03
3 - 4	1.045E-01	0.00	8.901E-02	0.00	5.093E-02	0.00	7.322E-02	0.00	3.917E-02	0.00	3.191E-04	2.707E-04	8.107E-04	6.879E-04
4 - 5	7.809E-02	0.00	6.849E-02	0.00	4.179E-02	0.00	5.808E-02	0.00	3.178E-02	0.00	1.987E-04	1.685E-04	2.951E-04	2.512E-04
5 - 6	6.346E-02	0.00	5.745E-02	0.00	3.416E-02	0.00	4.774E-02	0.00	2.527E-02	0.00	1.451E-04	1.231E-04	1.451E-04	1.231E-04
6 - 7	5.143E-02	0.00	4.879E-02	0.00	2.810E-02	0.00	3.711E-02	0.00	1.984E-02	0.00	1.169E-04	9.918E-05	1.169E-04	9.918E-05
7 - 8	4.174E-02	0.00	3.948E-02	0.00	2.273E-02	0.00	2.976E-02	0.00	1.540E-02	0.00	1.144E-04	9.704E-05	1.144E-04	9.704E-05
8 - 9	3.454E-02	0.00	3.123E-02	0.00	1.853E-02	0.00	2.348E-02	0.00	1.265E-02	0.00	1.137E-04	9.645E-05	1.137E-04	9.645E-05
9 - 10	2.729E-02	0.00	2.568E-02	0.00	1.428E-02	0.00	1.812E-02	0.00	1.179E-02	0.00	1.099E-04	9.326E-05	1.099E-04	9.326E-05
10 - 11	2.177E-02	0.00	2.073E-02	0.00	1.295E-02	0.00	1.577E-02	0.00	1.178E-02	0.00	1.051E-04	8.917E-05	1.051E-04	8.917E-05
11 - 12	1.698E-02	0.00	1.637E-02	0.00	1.252E-02	0.00	1.623E-02	0.00	1.176E-02	0.00	1.043E-04	8.845E-05	1.043E-04	8.845E-05
12 - 13	1.366E-02	0.00	1.259E-02	0.00	1.235E-02	0.00	1.559E-02	0.00	1.153E-02	0.00	1.027E-04	8.712E-05	1.027E-04	8.712E-05
13 - 14	9.747E-03	0.00	1.101E-02	0.00	1.233E-02	0.00	1.623E-02	0.00	1.203E-02	0.00	9.760E-05	8.280E-05	9.760E-05	8.280E-05
14 - 15	7.725E-03	0.00	1.149E-02	0.00	1.189E-02	0.00	1.613E-02	0.00	1.174E-02	0.00	9.363E-05	7.944E-05	9.363E-05	7.944E-05
15 - 16	5.717E-03	0.00	1.121E-02	0.00	1.155E-02	0.00	1.540E-02	0.00	1.158E-02	0.00	8.850E-05	7.509E-05	8.850E-05	7.509E-05
16 - 17	4.379E-03	0.00	1.104E-02	0.00	1.132E-02	0.00	1.606E-02	0.00	1.130E-02	0.00	8.579E-05	7.278E-05	8.579E-05	7.278E-05
17 - 18	4.695E-03	0.00	1.118E-02	0.00	1.129E-02	0.00	1.589E-02	0.00	1.099E-02	0.00	8.390E-05	7.118E-05	8.390E-05	7.118E-05
18 - 19	5.743E-03	0.00	1.130E-02	0.00	1.089E-02	0.00	1.583E-02	0.00	1.083E-02	0.00	7.584E-05	6.434E-05	7.584E-05	6.434E-05
19 - 20	6.857E-03	0.00	1.178E-02	0.00	1.057E-02	0.00	1.605E-02	0.00	1.040E-02	0.00	5.979E-05	5.073E-05	5.979E-05	5.073E-05
20 - 21	8.279E-03	0.00	1.212E-02	0.00	1.080E-02	0.00	1.565E-02	0.00	1.027E-02	0.00	4.362E-05	3.701E-05	4.362E-05	3.701E-05
21 - 22	9.857E-03	0.00	1.282E-02	0.00	1.081E-02	0.00	1.594E-02	0.00	9.925E-03	0.00	3.219E-05	2.731E-05	3.219E-05	2.731E-05
22 - 23	1.102E-02	0.00	1.333E-02	0.00	1.077E-02	0.00	1.593E-02	0.00	9.511E-03	0.00	2.442E-05	2.072E-05	2.442E-05	2.072E-05
23 - 24	1.193E-02	0.00	1.469E-02	0.00	1.069E-02	0.00	1.581E-02	0.00	9.669E-03	0.00	1.900E-05	1.612E-05	1.900E-05	1.612E-05
24 - 25	1.307E-02	0.00	1.466E-02	0.00	1.105E-02	0.00	1.682E-02	0.00	9.019E-03	0.00	1.551E-05	1.316E-05	1.551E-05	1.316E-05
25 - 30	1.587E-02	0.00	1.750E-02	0.00	1.067E-02	0.00	1.916E-02	0.00	9.551E-03	0.00	8.277E-06	7.022E-06	8.277E-06	7.022E-06
30 - 35	1.366E-02	0.00	1.523E-02	0.00	7.821E-03	0.00	2.648E-02	0.00	6.468E-03	0.00	2.363E-06	2.005E-06	2.363E-06	2.005E-06
35 - 40	1.192E-02	0.00	1.381E-02	0.00	7.221E-03	0.00	1.518E-02	0.00	5.460E-03	0.00	0.	0.	0.	0.
40 - 45	9.253E-03	0.00	1.113E-02	0.00	6.251E-03	0.00	1.245E-02	0.00	4.243E-03	0.00	0.	0.	0.	0.
45 - 50	6.178E-03	0.00	7.711E-03	0.00	4.490E-03	0.00	8.396E-03	0.00	3.135E-03	0.00	0.	0.	0.	0.
50 - 70	9.095E-04	0.00	1.088E-03	0.00	2.765E-04	0.00	1.109E-03	0.00	7.810E-04	0.00	0.	0.	0.	0.
70 -100	1.535E-05	0.00	1.743E-05	0.00	1.580E-04	0.00	1.762E-05	0.00	1.785E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.571093 MICROMETERS

FREQUENCY = 945.976 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	6.346E-01	0.00	4.146E-01	0.00	1.223E-01	0.00	2.548E-01	0.00	7.165E-02	0.00	5.417E-03	4.598E-03	2.640E-02	2.241E-02
0 - 1	4.872E-01	0.00	3.291E-01	0.00	1.114E-01	0.00	2.113E-01	0.00	7.313E-02	0.00	3.697E-03	3.138E-03	1.654E-02	1.413E-02
1 - 2	3.083E-01	0.00	2.169E-01	0.00	9.551E-02	0.00	1.544E-01	0.00	7.048E-02	0.00	1.613E-03	1.369E-03	5.354E-03	4.544E-03
2 - 3	1.969E-01	0.00	1.539E-01	0.00	8.351E-02	0.00	1.202E-01	0.00	6.304E-02	0.00	6.884E-04	5.843E-04	1.850E-03	1.579E-03
3 - 4	1.365E-01	0.00	1.185E-01	0.00	7.124E-02	0.00	9.865E-02	0.00	5.565E-02	0.00	3.197E-04	2.714E-04	8.124E-04	5.895E-04
4 - 5	1.062E-01	0.00	9.417E-02	0.00	5.938E-02	0.00	8.032E-02	0.00	4.571E-02	0.00	1.991E-04	1.690E-04	2.957E-04	2.519E-04
5 - 6	8.811E-02	0.00	8.053E-02	0.00	4.908E-02	0.00	6.736E-02	0.00	3.674E-02	0.00	1.454E-04	1.234E-04	1.454E-04	1.234E-04
6 - 7	7.255E-02	0.00	6.921E-02	0.00	4.075E-02	0.00	5.308E-02	0.00	2.909E-02	0.00	1.171E-04	9.943E-05	1.171E-04	9.943E-05
7 - 8	5.960E-02	0.00	5.655E-02	0.00	3.323E-02	0.00	4.303E-02	0.00	2.277E-02	0.00	1.146E-04	9.729E-05	1.146E-04	9.729E-05
8 - 9	4.978E-02	0.00	4.511E-02	0.00	2.727E-02	0.00	3.428E-02	0.00	1.884E-02	0.00	1.139E-04	9.669E-05	1.139E-04	9.669E-05
9 - 10	3.965E-02	0.00	3.739E-02	0.00	2.117E-02	0.00	2.668E-02	0.00	1.758E-02	0.00	1.102E-04	9.350E-05	1.102E-04	9.350E-05
10 - 11	3.188E-02	0.00	3.041E-02	0.00	1.927E-02	0.00	2.332E-02	0.00	1.757E-02	0.00	1.053E-04	8.939E-05	1.053E-04	8.939E-05
11 - 12	2.505E-02	0.00	2.419E-02	0.00	1.864E-02	0.00	2.400E-02	0.00	1.754E-02	0.00	1.045E-04	8.868E-05	1.045E-04	8.868E-05
12 - 13	2.030E-02	0.00	1.874E-02	0.00	1.840E-02	0.00	2.305E-02	0.00	1.720E-02	0.00	1.029E-04	8.734E-05	1.029E-04	8.734E-05
13 - 14	1.460E-02	0.00	1.644E-02	0.00	1.839E-02	0.00	2.400E-02	0.00	1.795E-02	0.00	9.780E-05	8.301E-05	9.780E-05	8.301E-05
14 - 15	1.166E-02	0.00	1.716E-02	0.00	1.773E-02	0.00	2.387E-02	0.00	1.752E-02	0.00	9.382E-05	7.964E-05	9.382E-05	7.964E-05
15 - 16	8.701E-03	0.00	1.675E-02	0.00	1.724E-02	0.00	2.278E-02	0.00	1.729E-02	0.00	8.869E-05	7.528E-05	8.869E-05	7.528E-05
16 - 17	6.703E-03	0.00	1.650E-02	0.00	1.691E-02	0.00	2.377E-02	0.00	1.689E-02	0.00	8.596E-05	7.297E-05	8.596E-05	7.297E-05
17 - 18	7.179E-03	0.00	1.671E-02	0.00	1.689E-02	0.00	2.352E-02	0.00	1.644E-02	0.00	8.407E-05	7.136E-05	8.407E-05	7.136E-05
18 - 19	8.740E-03	0.00	1.689E-02	0.00	1.630E-02	0.00	2.345E-02	0.00	1.623E-02	0.00	7.599E-05	6.450E-05	7.599E-05	6.450E-05
19 - 20	1.039E-02	0.00	1.760E-02	0.00	1.584E-02	0.00	2.379E-02	0.00	1.560E-02	0.00	5.992E-05	5.086E-05	5.992E-05	5.086E-05
20 - 21	1.249E-02	0.00	1.810E-02	0.00	1.619E-02	0.00	2.320E-02	0.00	1.542E-02	0.00	4.371E-05	3.710E-05	4.371E-05	3.710E-05
21 - 22	1.482E-02	0.00	1.913E-02	0.00	1.621E-02	0.00	2.365E-02	0.00	1.492E-02	0.00	3.226E-05	2.738E-05	3.226E-05	2.738E-05
22 - 23	1.652E-02	0.00	1.987E-02	0.00	1.616E-02	0.00	2.365E-02	0.00	1.431E-02	0.00	2.447E-05	2.077E-05	2.447E-05	2.077E-05
23 - 24	1.785E-02	0.00	2.189E-02	0.00	1.606E-02	0.00	2.349E-02	0.00	1.457E-02	0.00	1.904E-05	1.616E-05	1.904E-05	1.616E-05
24 - 25	1.954E-02	0.00	2.184E-02	0.00	1.661E-02	0.00	2.497E-02	0.00	1.361E-02	0.00	1.554E-05	1.319E-05	1.554E-05	1.319E-05
25 - 30	2.363E-02	0.00	2.599E-02	0.00	1.604E-02	0.00	2.839E-02	0.00	1.440E-02	0.00	8.294E-06	7.040E-06	8.294E-06	7.040E-06
30 - 35	1.676E-02	0.00	1.877E-02	0.00	9.683E-03	0.00	3.904E-02	0.00	7.984E-03	0.00	2.368E-06	2.010E-06	2.368E-06	2.010E-06
35 - 40	1.372E-02	0.00	1.593E-02	0.00	8.348E-03	0.00	1.748E-02	0.00	6.324E-03	0.00	0.	0.	0.	0.
40 - 45	1.024E-02	0.00	1.231E-02	0.00	6.921E-03	0.00	1.373E-02	0.00	4.721E-03	0.00	0.	0.	0.	0.
45 - 50	6.684E-03	0.00	8.327E-03	0.00	4.858E-03	0.00	9.057E-03	0.00	3.407E-03	0.00	0.	0.	0.	0.
50 - 70	9.884E-04	0.00	1.182E-03	0.00	2.992E-04	0.00	1.205E-03	0.00	8.415E-04	0.00	0.	0.	0.	0.
70 -100	1.697E-05	0.00	1.928E-05	0.00	1.739E-04	0.00	1.951E-05	0.00	1.950E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.551439 MICROMETERS

FREQUENCY = 947.738 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.772E-01	0.00	3.527E-01	0.00	7.466E-02	0.00	1.953E-01	0.00	3.782E-02	0.00	5.428E-03	4.610E-03	2.645E-02	2.245E-02
0 - 1	4.233E-01	0.00	2.656E-01	0.00	6.544E-02	0.00	1.523E-01	0.00	3.831E-02	0.00	3.705E-03	3.146E-03	1.658E-02	1.416E-02
1 - 2	2.444E-01	0.00	1.535E-01	0.00	5.240E-02	0.00	9.934E-02	0.00	3.616E-02	0.00	1.617E-03	1.373E-03	5.365E-03	4.555E-03
2 - 3	1.338E-01	0.00	9.348E-02	0.00	4.343E-02	0.00	7.002E-02	0.00	3.157E-02	0.00	5.899E-04	5.858E-04	1.954E-03	1.533E-03
3 - 4	7.652E-02	0.00	6.400E-02	0.00	3.548E-02	0.00	5.276E-02	0.00	2.727E-02	0.00	3.204E-04	2.720E-04	8.141E-04	6.913E-04
4 - 5	5.459E-02	0.00	4.746E-02	0.00	2.884E-02	0.00	4.059E-02	0.00	2.206E-02	0.00	1.995E-04	1.694E-04	2.973E-04	2.525E-04
5 - 6	4.359E-02	0.00	3.915E-02	0.00	2.357E-02	0.00	3.294E-02	0.00	1.762E-02	0.00	1.457E-04	1.237E-04	1.457E-04	1.237E-04
6 - 7	3.502E-02	0.00	3.317E-02	0.00	1.945E-02	0.00	2.555E-02	0.00	1.395E-02	0.00	1.174E-04	9.967E-05	1.174E-04	9.967E-05
7 - 8	2.844E-02	0.00	2.694E-02	0.00	1.585E-02	0.00	2.057E-02	0.00	1.094E-02	0.00	1.148E-04	9.753E-05	1.148E-04	9.753E-05
8 - 9	2.365E-02	0.00	2.145E-02	0.00	1.304E-02	0.00	1.635E-02	0.00	9.072E-03	0.00	1.141E-04	9.693E-05	1.141E-04	9.693E-05
9 - 10	1.884E-02	0.00	1.780E-02	0.00	1.016E-02	0.00	1.276E-02	0.00	8.475E-03	0.00	1.104E-04	9.373E-05	1.104E-04	9.373E-05
10 - 11	1.519E-02	0.00	1.451E-02	0.00	9.272E-03	0.00	1.117E-02	0.00	8.465E-03	0.00	1.055E-04	8.962E-05	1.055E-04	8.962E-05
11 - 12	1.198E-02	0.00	1.158E-02	0.00	8.970E-03	0.00	1.149E-02	0.00	8.454E-03	0.00	1.047E-04	8.889E-05	1.047E-04	8.889E-05
12 - 13	9.756E-03	0.00	9.015E-03	0.00	8.859E-03	0.00	1.104E-02	0.00	8.288E-03	0.00	1.031E-04	8.755E-05	1.031E-04	8.755E-05
13 - 14	7.058E-03	0.00	7.931E-03	0.00	8.852E-03	0.00	1.149E-02	0.00	8.645E-03	0.00	9.800E-05	8.322E-05	9.800E-05	8.322E-05
14 - 15	5.670E-03	0.00	8.277E-03	0.00	8.541E-03	0.00	1.143E-02	0.00	8.441E-03	0.00	9.402E-05	7.983E-05	9.402E-05	7.983E-05
15 - 16	4.256E-03	0.00	8.079E-03	0.00	8.310E-03	0.00	1.091E-02	0.00	8.334E-03	0.00	8.887E-05	7.546E-05	8.887E-05	7.546E-05
16 - 17	3.293E-03	0.00	7.959E-03	0.00	8.152E-03	0.00	1.138E-02	0.00	8.142E-03	0.00	8.614E-05	7.315E-05	8.614E-05	7.315E-05
17 - 18	3.523E-03	0.00	8.059E-03	0.00	8.146E-03	0.00	1.126E-02	0.00	7.930E-03	0.00	8.424E-05	7.153E-05	8.424E-05	7.153E-05
18 - 19	4.273E-03	0.00	8.141E-03	0.00	7.863E-03	0.00	1.123E-02	0.00	7.832E-03	0.00	7.615E-05	6.466E-05	7.615E-05	6.466E-05
19 - 20	5.059E-03	0.00	8.479E-03	0.00	7.643E-03	0.00	1.139E-02	0.00	7.534E-03	0.00	6.004E-05	5.098E-05	6.004E-05	5.098E-05
20 - 21	6.061E-03	0.00	8.709E-03	0.00	7.812E-03	0.00	1.111E-02	0.00	7.450E-03	0.00	4.380E-05	3.720E-05	4.380E-05	3.720E-05
21 - 22	7.163E-03	0.00	9.202E-03	0.00	7.824E-03	0.00	1.132E-02	0.00	7.212E-03	0.00	3.232E-05	2.745E-05	3.232E-05	2.745E-05
22 - 23	7.966E-03	0.00	9.543E-03	0.00	7.798E-03	0.00	1.132E-02	0.00	6.923E-03	0.00	2.452E-05	2.082E-05	2.452E-05	2.082E-05
23 - 24	8.596E-03	0.00	1.050E-02	0.00	7.751E-03	0.00	1.124E-02	0.00	7.051E-03	0.00	1.908E-05	1.620E-05	1.908E-05	1.620E-05
24 - 25	9.393E-03	0.00	1.047E-02	0.00	8.015E-03	0.00	1.194E-02	0.00	6.589E-03	0.00	1.557E-05	1.322E-05	1.557E-05	1.322E-05
25 - 30	1.130E-02	0.00	1.240E-02	0.00	7.734E-03	0.00	1.353E-02	0.00	6.959E-03	0.00	8.311E-06	7.057E-06	8.311E-06	7.057E-06
30 - 35	1.200E-02	0.00	1.319E-02	0.00	7.095E-03	0.00	1.847E-02	0.00	5.971E-03	0.00	2.373E-06	2.015E-06	2.373E-06	2.015E-06
35 - 40	1.147E-02	0.00	1.312E-02	0.00	7.171E-03	0.00	1.435E-02	0.00	5.528E-03	0.00	0.	0.	0.	0.
40 - 45	9.407E-03	0.00	1.119E-02	0.00	6.499E-03	0.00	1.244E-02	0.00	4.498E-03	0.00	0.	0.	0.	0.
45 - 50	6.464E-03	0.00	7.987E-03	0.00	4.764E-03	0.00	8.663E-03	0.00	3.379E-03	0.00	0.	0.	0.	0.
50 - 70	1.006E-03	0.00	1.197E-03	0.00	3.055E-04	0.00	1.220E-03	0.00	8.601E-04	0.00	0.	0.	0.	0.
70 -100	1.814E-05	0.00	2.062E-05	0.00	1.849E-04	0.00	2.089E-05	0.00	2.063E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.532125 MICROMETERS

FREQUENCY = 949.476 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	6.066E-01	0.00	3.914E-01	0.00	1.101E-01	0.00	2.360E-01	0.00	6.417E-02	0.00	5.439E-03	4.621E-03	2.650E-02	2.252E-02
0 - 1	4.620E-01	0.00	3.074E-01	0.00	9.990E-02	0.00	1.937E-01	0.00	6.538E-02	0.00	3.712E-03	3.154E-03	1.671E-02	1.420E-02
1 - 2	2.873E-01	0.00	1.980E-01	0.00	8.515E-02	0.00	1.394E-01	0.00	6.292E-02	0.00	1.620E-03	1.376E-03	5.375E-03	4.567E-03
2 - 3	1.787E-01	0.00	1.375E-01	0.00	7.424E-02	0.00	1.074E-01	0.00	5.632E-02	0.00	6.912E-04	5.872E-04	1.857E-03	1.585E-03
3 - 4	1.207E-01	0.00	1.047E-01	0.00	6.333E-02	0.00	8.758E-02	0.00	4.983E-02	0.00	3.210E-04	2.727E-04	8.157E-04	6.930E-04
4 - 5	9.342E-02	0.00	8.293E-02	0.00	5.298E-02	0.00	7.123E-02	0.00	4.114E-02	0.00	1.999E-04	1.698E-04	2.979E-04	2.531E-04
5 - 6	7.764E-02	0.00	7.104E-02	0.00	4.404E-02	0.00	5.990E-02	0.00	3.333E-02	0.00	1.460E-04	1.240E-04	1.460E-04	1.240E-04
6 - 7	6.417E-02	0.00	6.133E-02	0.00	3.680E-02	0.00	4.748E-02	0.00	2.662E-02	0.00	1.176E-04	9.992E-05	1.176E-04	9.992E-05
7 - 8	5.304E-02	0.00	5.043E-02	0.00	3.024E-02	0.00	3.879E-02	0.00	2.104E-02	0.00	1.151E-04	9.776E-05	1.151E-04	9.776E-05
8 - 9	4.460E-02	0.00	4.052E-02	0.00	2.502E-02	0.00	3.116E-02	0.00	1.753E-02	0.00	1.144E-04	9.717E-05	1.144E-04	9.717E-05
9 - 10	3.580E-02	0.00	3.385E-02	0.00	1.959E-02	0.00	2.448E-02	0.00	1.641E-02	0.00	1.106E-04	9.396E-05	1.106E-04	9.396E-05
10 - 11	2.905E-02	0.00	2.776E-02	0.00	1.792E-02	0.00	2.150E-02	0.00	1.639E-02	0.00	1.057E-04	8.983E-05	1.057E-04	8.983E-05
11 - 12	2.303E-02	0.00	2.229E-02	0.00	1.734E-02	0.00	2.213E-02	0.00	1.637E-02	0.00	1.049E-04	8.911E-05	1.049E-04	8.911E-05
12 - 13	1.885E-02	0.00	1.743E-02	0.00	1.714E-02	0.00	2.126E-02	0.00	1.605E-02	0.00	1.033E-04	8.777E-05	1.033E-04	8.777E-05
13 - 14	1.371E-02	0.00	1.537E-02	0.00	1.713E-02	0.00	2.213E-02	0.00	1.674E-02	0.00	9.820E-05	8.342E-05	9.820E-05	8.342E-05
14 - 15	1.107E-02	0.00	1.604E-02	0.00	1.654E-02	0.00	2.201E-02	0.00	1.635E-02	0.00	9.420E-05	8.003E-05	9.420E-05	8.003E-05
15 - 16	8.352E-03	0.00	1.566E-02	0.00	1.610E-02	0.00	2.101E-02	0.00	1.614E-02	0.00	8.905E-05	7.565E-05	8.905E-05	7.565E-05
16 - 17	6.489E-03	0.00	1.543E-02	0.00	1.580E-02	0.00	2.192E-02	0.00	1.578E-02	0.00	8.631E-05	7.332E-05	8.631E-05	7.332E-05
17 - 18	6.936E-03	0.00	1.562E-02	0.00	1.579E-02	0.00	2.169E-02	0.00	1.537E-02	0.00	8.441E-05	7.171E-05	8.441E-05	7.171E-05
18 - 19	8.382E-03	0.00	1.577E-02	0.00	1.525E-02	0.00	2.162E-02	0.00	1.519E-02	0.00	7.630E-05	6.482E-05	7.630E-05	6.482E-05
19 - 20	9.892E-03	0.00	1.642E-02	0.00	1.482E-02	0.00	2.194E-02	0.00	1.462E-02	0.00	6.016E-05	5.111E-05	6.016E-05	5.111E-05
20 - 21	1.181E-02	0.00	1.685E-02	0.00	1.515E-02	0.00	2.139E-02	0.00	1.446E-02	0.00	4.389E-05	3.729E-05	4.389E-05	3.729E-05
21 - 22	1.392E-02	0.00	1.779E-02	0.00	1.517E-02	0.00	2.181E-02	0.00	1.401E-02	0.00	3.239E-05	2.751E-05	3.239E-05	2.751E-05
22 - 23	1.544E-02	0.00	1.843E-02	0.00	1.512E-02	0.00	2.181E-02	0.00	1.345E-02	0.00	2.457E-05	2.087E-05	2.457E-05	2.087E-05
23 - 24	1.664E-02	0.00	2.026E-02	0.00	1.503E-02	0.00	2.165E-02	0.00	1.371E-02	0.00	1.912E-05	1.624E-05	1.912E-05	1.624E-05
24 - 25	1.815E-02	0.00	2.018E-02	0.00	1.555E-02	0.00	2.296E-02	0.00	1.282E-02	0.00	1.560E-05	1.326E-05	1.560E-05	1.326E-05
25 - 30	2.174E-02	0.00	2.382E-02	0.00	1.499E-02	0.00	2.594E-02	0.00	1.351E-02	0.00	8.327E-06	7.074E-06	8.327E-06	7.074E-06
30 - 35	1.678E-02	0.00	1.868E-02	0.00	9.920E-03	0.00	3.522E-02	0.00	8.250E-03	0.00	2.378E-06	2.020E-06	2.378E-06	2.020E-06
35 - 40	1.394E-02	0.00	1.609E-02	0.00	8.647E-03	0.00	1.759E-02	0.00	6.626E-03	0.00	0.	0.	0.	0.
40 - 45	1.043E-02	0.00	1.247E-02	0.00	7.143E-03	0.00	1.385E-02	0.00	4.937E-03	0.00	0.	0.	0.	0.
45 - 50	6.811E-03	0.00	8.432E-03	0.00	4.987E-03	0.00	9.146E-03	0.00	3.535E-03	0.00	0.	0.	0.	0.
50 - 70	1.040E-03	0.00	1.238E-03	0.00	3.135E-04	0.00	1.264E-03	0.00	8.778E-04	0.00	0.	0.	0.	0.
70 - 100	1.869E-05	0.00	2.125E-05	0.00	1.896E-04	0.00	2.155E-05	0.00	2.105E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.513158 MICROMETERS

FREQUENCY = 951.189 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.911E-01	0.00	3.797E-01	0.00	1.058E-01	0.00	2.277E-01	0.00	6.194E-02	0.00	5.450E-03	4.632E-03	2.655E-02	2.257E-02
0 - 1	4.491E-01	0.00	2.975E-01	0.00	9.601E-02	0.00	1.866E-01	0.00	6.309E-02	0.00	3.720E-03	3.161E-03	1.674E-02	1.423E-02
1 - 2	2.781E-01	0.00	1.906E-01	0.00	8.193E-02	0.00	1.340E-01	0.00	6.075E-02	0.00	1.623E-03	1.379E-03	5.336E-03	4.573E-03
2 - 3	1.719E-01	0.00	1.319E-01	0.00	7.153E-02	0.00	1.033E-01	0.00	5.448E-02	0.00	6.925E-04	5.886E-04	1.871E-03	1.590E-03
3 - 4	1.157E-01	0.00	1.005E-01	0.00	6.115E-02	0.00	8.428E-02	0.00	4.832E-02	0.00	3.216E-04	2.734E-04	8.173E-04	6.946E-04
4 - 5	8.969E-02	0.00	7.971E-02	0.00	5.132E-02	0.00	6.868E-02	0.00	4.002E-02	0.00	2.003E-04	1.702E-04	2.985E-04	2.537E-04
5 - 6	7.473E-02	0.00	6.846E-02	0.00	4.279E-02	0.00	5.793E-02	0.00	3.255E-02	0.00	1.463E-04	1.243E-04	1.463E-04	1.243E-04
6 - 7	6.195E-02	0.00	5.928E-02	0.00	3.588E-02	0.00	4.608E-02	0.00	2.610E-02	0.00	1.178E-04	1.002E-04	1.178E-04	1.002E-04
7 - 8	5.138E-02	0.00	4.890E-02	0.00	2.958E-02	0.00	3.778E-02	0.00	2.071E-02	0.00	1.153E-04	9.800E-05	1.153E-04	9.800E-05
8 - 9	4.335E-02	0.00	3.942E-02	0.00	2.455E-02	0.00	3.047E-02	0.00	1.732E-02	0.00	1.145E-04	9.740E-05	1.146E-04	9.740E-05
9 - 10	3.491E-02	0.00	3.305E-02	0.00	1.930E-02	0.00	2.404E-02	0.00	1.622E-02	0.00	1.108E-04	9.418E-05	1.108E-04	9.418E-05
10 - 11	2.844E-02	0.00	2.720E-02	0.00	1.769E-02	0.00	2.116E-02	0.00	1.620E-02	0.00	1.050E-04	9.005E-05	1.050E-04	9.005E-05
11 - 12	2.263E-02	0.00	2.192E-02	0.00	1.713E-02	0.00	2.177E-02	0.00	1.618E-02	0.00	1.051E-04	8.932E-05	1.051E-04	8.932E-05
12 - 13	1.859E-02	0.00	1.722E-02	0.00	1.693E-02	0.00	2.092E-02	0.00	1.587E-02	0.00	1.035E-04	8.798E-05	1.035E-04	8.798E-05
13 - 14	1.358E-02	0.00	1.521E-02	0.00	1.693E-02	0.00	2.178E-02	0.00	1.656E-02	0.00	9.839E-05	8.362E-05	9.839E-05	8.362E-05
14 - 15	1.102E-02	0.00	1.588E-02	0.00	1.635E-02	0.00	2.166E-02	0.00	1.616E-02	0.00	9.439E-05	8.022E-05	9.439E-05	8.022E-05
15 - 16	8.355E-03	0.00	1.550E-02	0.00	1.592E-02	0.00	2.057E-02	0.00	1.597E-02	0.00	8.922E-05	7.583E-05	8.922E-05	7.583E-05
16 - 17	5.514E-03	0.00	1.527E-02	0.00	1.563E-02	0.00	2.157E-02	0.00	1.561E-02	0.00	8.648E-05	7.350E-05	8.648E-05	7.350E-05
17 - 18	6.957E-03	0.00	1.546E-02	0.00	1.563E-02	0.00	2.134E-02	0.00	1.522E-02	0.00	8.458E-05	7.188E-05	8.459E-05	7.188E-05
18 - 19	8.382E-03	0.00	1.560E-02	0.00	1.509E-02	0.00	2.127E-02	0.00	1.504E-02	0.00	7.645E-05	6.497E-05	7.645E-05	6.497E-05
19 - 20	9.862E-03	0.00	1.623E-02	0.00	1.468E-02	0.00	2.159E-02	0.00	1.448E-02	0.00	6.028E-05	5.123E-05	6.028E-05	5.123E-05
20 - 21	1.174E-02	0.00	1.665E-02	0.00	1.500E-02	0.00	2.105E-02	0.00	1.433E-02	0.00	4.398E-05	3.737E-05	4.398E-05	3.737E-05
21 - 22	1.380E-02	0.00	1.756E-02	0.00	1.502E-02	0.00	2.146E-02	0.00	1.389E-02	0.00	3.245E-05	2.758E-05	3.245E-05	2.758E-05
22 - 23	1.528E-02	0.00	1.818E-02	0.00	1.497E-02	0.00	2.146E-02	0.00	1.334E-02	0.00	2.462E-05	2.092E-05	2.452E-05	2.092E-05
23 - 24	1.644E-02	0.00	1.997E-02	0.00	1.488E-02	0.00	2.129E-02	0.00	1.360E-02	0.00	1.916E-05	1.628E-05	1.915E-05	1.628E-05
24 - 25	1.792E-02	0.00	1.988E-02	0.00	1.539E-02	0.00	2.256E-02	0.00	1.272E-02	0.00	1.564E-05	1.329E-05	1.554E-05	1.329E-05
25 - 30	2.137E-02	0.00	2.339E-02	0.00	1.483E-02	0.00	2.543E-02	0.00	1.339E-02	0.00	8.344E-06	7.091E-06	8.344E-06	7.091E-06
30 - 35	1.638E-02	0.00	1.822E-02	0.00	9.765E-03	0.00	3.435E-02	0.00	8.138E-03	0.00	2.382E-06	2.025E-06	2.332E-06	2.025E-06
35 - 40	1.352E-02	0.00	1.559E-02	0.00	8.446E-03	0.00	1.702E-02	0.00	6.498E-03	0.00	0.	0.	0.	0.
40 - 45	1.007E-02	0.00	1.201E-02	0.00	6.921E-03	0.00	1.332E-02	0.00	4.808E-03	0.00	0.	0.	0.	0.
45 - 50	6.550E-03	0.00	8.089E-03	0.00	4.807E-03	0.00	8.766E-03	0.00	3.421E-03	0.00	0.	0.	0.	0.
50 - 70	1.010E-03	0.00	1.202E-03	0.00	3.041E-04	0.00	1.227E-03	0.00	8.497E-04	0.00	0.	0.	0.	0.
70 -100	1.848E-05	0.00	2.102E-05	0.00	1.868E-04	0.00	2.132E-05	0.00	2.064E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.494534 MICROMETERS

FREQUENCY = 952.877 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$
0	5.960E-01	0.00	3.799E-01	0.00	1.008E-01	0.00	2.244E-01	0.00
0 - 1	4.503E-01	0.00	2.952E-01	0.00	9.102E-02	0.00	1.821E-01	0.00
1 - 2	2.748E-01	0.00	1.855E-01	0.00	7.648E-02	0.00	1.286E-01	0.00
2 - 3	1.661E-01	0.00	1.256E-01	0.00	6.679E-02	0.00	9.768E-02	0.00
3 - 4	1.089E-01	0.00	9.409E-02	0.00	5.686E-02	0.00	7.888E-02	0.00
4 - 5	8.348E-02	0.00	7.405E-02	0.00	4.766E-02	0.00	6.392E-02	0.00
5 - 6	6.930E-02	0.00	6.340E-02	0.00	3.977E-02	0.00	5.378E-02	0.00
6 - 7	5.737E-02	0.00	5.489E-02	0.00	3.340E-02	0.00	4.280E-02	0.00
7 - 8	4.761E-02	0.00	4.533E-02	0.00	2.759E-02	0.00	3.515E-02	0.00
8 - 9	4.024E-02	0.00	3.662E-02	0.00	2.297E-02	0.00	2.841E-02	0.00
9 - 10	3.249E-02	0.00	3.078E-02	0.00	1.810E-02	0.00	2.249E-02	0.00
10 - 11	2.654E-02	0.00	2.541E-02	0.00	1.663E-02	0.00	1.983E-02	0.00
11 - 12	2.119E-02	0.00	2.054E-02	0.00	1.610E-02	0.00	2.040E-02	0.00
12 - 13	1.746E-02	0.00	1.618E-02	0.00	1.592E-02	0.00	1.960E-02	0.00
13 - 14	1.281E-02	0.00	1.432E-02	0.00	1.592E-02	0.00	2.040E-02	0.00
14 - 15	1.043E-02	0.00	1.495E-02	0.00	1.539E-02	0.00	2.029E-02	0.00
15 - 16	7.939E-03	0.00	1.459E-02	0.00	1.498E-02	0.00	1.937E-02	0.00
16 - 17	6.208E-03	0.00	1.437E-02	0.00	1.471E-02	0.00	2.021E-02	0.00
17 - 18	6.626E-03	0.00	1.455E-02	0.00	1.471E-02	0.00	2.000E-02	0.00
18 - 19	7.963E-03	0.00	1.469E-02	0.00	1.422E-02	0.00	1.993E-02	0.00
19 - 20	9.345E-03	0.00	1.527E-02	0.00	1.382E-02	0.00	2.023E-02	0.00
20 - 21	1.110E-02	0.00	1.565E-02	0.00	1.413E-02	0.00	1.972E-02	0.00
21 - 22	1.301E-02	0.00	1.651E-02	0.00	1.415E-02	0.00	2.011E-02	0.00
22 - 23	1.438E-02	0.00	1.707E-02	0.00	1.410E-02	0.00	2.011E-02	0.00
23 - 24	1.546E-02	0.00	1.873E-02	0.00	1.402E-02	0.00	1.995E-02	0.00
24 - 25	1.683E-02	0.00	1.864E-02	0.00	1.450E-02	0.00	2.112E-02	0.00
25 - 30	2.001E-02	0.00	2.187E-02	0.00	1.396E-02	0.00	2.375E-02	0.00
30 - 35	1.524E-02	0.00	1.693E-02	0.00	9.152E-03	0.00	3.194E-02	0.00
35 - 40	1.252E-02	0.00	1.441E-02	0.00	7.863E-03	0.00	1.571E-02	0.00
40 - 45	9.275E-03	0.00	1.105E-02	0.00	6.399E-03	0.00	1.223E-02	0.00
45 - 50	6.016E-03	0.00	7.416E-03	0.00	4.424E-03	0.00	8.030E-03	0.00
50 - 70	9.364E-04	0.00	1.113E-03	0.00	2.814E-04	0.00	1.136E-03	0.00
70 -100	1.738E-05	0.00	1.978E-05	0.00	1.751E-04	0.00	2.007E-05	0.00

HT(KM)	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.802E-02	0.00	5.461E-03	4.643E-03	2.651E-02	2.262E-02
0 - 1	5.903E-02	0.00	3.727E-03	3.169E-03	1.679E-02	1.425E-02
1 - 2	5.671E-02	0.00	1.626E-03	1.383E-03	5.397E-03	4.598E-03
2 - 3	5.075E-02	0.00	6.939E-04	5.900E-04	1.875E-03	1.594E-03
3 - 4	4.495E-02	0.00	3.223E-04	2.740E-04	8.139E-04	6.953E-04
4 - 5	3.725E-02	0.00	2.007E-04	1.706E-04	2.991E-04	2.543E-04
5 - 6	3.034E-02	0.00	1.466E-04	1.246E-04	1.466E-04	1.246E-04
6 - 7	2.440E-02	0.00	1.181E-04	1.004E-04	1.131E-04	1.004E-04
7 - 8	1.942E-02	0.00	1.155E-04	9.823E-05	1.155E-04	9.823E-05
8 - 9	1.628E-02	0.00	1.148E-04	9.763E-05	1.148E-04	9.753E-05
9 - 10	1.526E-02	0.00	1.110E-04	9.440E-05	1.110E-04	9.440E-05
10 - 11	1.525E-02	0.00	1.062E-04	9.026E-05	1.062E-04	9.026E-05
11 - 12	1.523E-02	0.00	1.053E-04	8.953E-05	1.053E-04	8.953E-05
12 - 13	1.493E-02	0.00	1.037E-04	8.818E-05	1.037E-04	8.818E-05
13 - 14	1.558E-02	0.00	9.858E-05	8.382E-05	9.858E-05	8.382E-05
14 - 15	1.521E-02	0.00	9.457E-05	8.041E-05	9.457E-05	8.041E-05
15 - 16	1.502E-02	0.00	8.940E-05	7.601E-05	8.940E-05	7.601E-05
16 - 17	1.469E-02	0.00	8.665E-05	7.367E-05	8.656E-05	7.367E-05
17 - 18	1.433E-02	0.00	8.474E-05	7.205E-05	8.474E-05	7.205E-05
18 - 19	1.417E-02	0.00	7.660E-05	6.513E-05	7.650E-05	6.513E-05
19 - 20	1.365E-02	0.00	6.039E-05	5.135E-05	6.039E-05	5.135E-05
20 - 21	1.351E-02	0.00	4.405E-05	3.746E-05	4.405E-05	3.746E-05
21 - 22	1.309E-02	0.00	3.251E-05	2.764E-05	3.251E-05	2.764E-05
22 - 23	1.258E-02	0.00	2.466E-05	2.097E-05	2.456E-05	2.097E-05
23 - 24	1.283E-02	0.00	1.919E-05	1.632E-05	1.919E-05	1.632E-05
24 - 25	1.201E-02	0.00	1.567E-05	1.332E-05	1.557E-05	1.332E-05
25 - 30	1.263E-02	0.00	8.360E-06	7.108E-06	8.350E-06	7.109E-06
30 - 35	7.641E-03	0.00	2.387E-06	2.029E-06	2.337E-06	2.029E-06
35 - 40	6.059E-03	0.00	0.	0.	0.	0.
40 - 45	4.464E-03	0.00	0.	0.	0.	0.
45 - 50	3.160E-03	0.00	0.	0.	0.	0.
50 - 70	7.849E-04	0.00	0.	0.	0.	0.
70 -100	1.928E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.476239 MICROMETERS

FREQUENCY = 954.541 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.530E-01	0.00	3.445E-01	0.00	8.169E-02	0.00	1.958E-01	0.00	4.519E-02	0.00	5.471E-03	4.653E-03	2.656E-02	2.257E-02
0 - 1	4.123E-01	0.00	2.628E-01	0.00	7.295E-02	0.00	1.558E-01	0.00	4.588E-02	0.00	3.734E-03	3.176E-03	1.631E-02	1.430E-02
1 - 2	2.438E-01	0.00	1.579E-01	0.00	6.053E-02	0.00	1.061E-01	0.00	4.383E-02	0.00	1.629E-03	1.386E-03	5.407E-03	4.599E-03
2 - 3	1.398E-01	0.00	1.017E-01	0.00	5.177E-02	0.00	7.824E-02	0.00	3.900E-02	0.00	6.952E-04	5.913E-04	1.879E-03	1.599E-03
3 - 4	8.610E-02	0.00	7.359E-02	0.00	4.359E-02	0.00	6.163E-02	0.00	3.436E-02	0.00	3.229E-04	2.746E-04	8.205E-04	6.979E-04
4 - 5	6.441E-02	0.00	5.683E-02	0.00	3.633E-02	0.00	4.921E-02	0.00	2.839E-02	0.00	2.010E-04	1.710E-04	2.997E-04	2.549E-04
5 - 6	5.296E-02	0.00	4.823E-02	0.00	3.026E-02	0.00	4.105E-02	0.00	2.312E-02	0.00	1.469E-04	1.249E-04	1.468E-04	1.249E-04
6 - 7	4.359E-02	0.00	4.165E-02	0.00	2.540E-02	0.00	3.257E-02	0.00	1.861E-02	0.00	1.183E-04	1.006E-04	1.183E-04	1.006E-04
7 - 8	3.612E-02	0.00	3.439E-02	0.00	2.100E-02	0.00	2.673E-02	0.00	1.484E-02	0.00	1.158E-04	9.845E-05	1.158E-04	9.845E-05
8 - 9	3.053E-02	0.00	2.780E-02	0.00	1.752E-02	0.00	2.163E-02	0.00	1.246E-02	0.00	1.150E-04	9.785E-05	1.150E-04	9.785E-05
9 - 10	2.468E-02	0.00	2.340E-02	0.00	1.384E-02	0.00	1.715E-02	0.00	1.169E-02	0.00	1.112E-04	9.462E-05	1.112E-04	9.462E-05
10 - 11	2.020E-02	0.00	1.935E-02	0.00	1.273E-02	0.00	1.514E-02	0.00	1.168E-02	0.00	1.064E-04	9.047E-05	1.054E-04	9.047E-05
11 - 12	1.616E-02	0.00	1.568E-02	0.00	1.233E-02	0.00	1.558E-02	0.00	1.167E-02	0.00	1.055E-04	8.974E-05	1.055E-04	8.974E-05
12 - 13	1.336E-02	0.00	1.239E-02	0.00	1.219E-02	0.00	1.497E-02	0.00	1.144E-02	0.00	1.039E-04	8.839E-05	1.039E-04	8.839E-05
13 - 14	9.829E-03	0.00	1.098E-02	0.00	1.220E-02	0.00	1.558E-02	0.00	1.193E-02	0.00	9.877E-05	8.401E-05	9.877E-05	8.401E-05
14 - 15	8.028E-03	0.00	1.146E-02	0.00	1.178E-02	0.00	1.549E-02	0.00	1.165E-02	0.00	9.475E-05	8.059E-05	9.475E-05	8.059E-05
15 - 16	6.133E-03	0.00	1.118E-02	0.00	1.148E-02	0.00	1.479E-02	0.00	1.151E-02	0.00	8.957E-05	7.618E-05	8.957E-05	7.618E-05
16 - 17	4.807E-03	0.00	1.102E-02	0.00	1.127E-02	0.00	1.543E-02	0.00	1.125E-02	0.00	8.682E-05	7.384E-05	8.682E-05	7.384E-05
17 - 18	5.128E-03	0.00	1.116E-02	0.00	1.128E-02	0.00	1.527E-02	0.00	1.099E-02	0.00	8.490E-05	7.222E-05	8.490E-05	7.222E-05
18 - 19	6.149E-03	0.00	1.126E-02	0.00	1.090E-02	0.00	1.522E-02	0.00	1.086E-02	0.00	7.675E-05	6.528E-05	7.675E-05	6.528E-05
19 - 20	7.202E-03	0.00	1.169E-02	0.00	1.060E-02	0.00	1.544E-02	0.00	1.047E-02	0.00	6.051E-05	5.147E-05	6.051E-05	5.147E-05
20 - 21	8.538E-03	0.00	1.198E-02	0.00	1.084E-02	0.00	1.506E-02	0.00	1.037E-02	0.00	4.415E-05	3.755E-05	4.415E-05	3.755E-05
21 - 22	9.989E-03	0.00	1.263E-02	0.00	1.085E-02	0.00	1.535E-02	0.00	1.005E-02	0.00	3.258E-05	2.771E-05	3.258E-05	2.771E-05
22 - 23	1.103E-02	0.00	1.306E-02	0.00	1.082E-02	0.00	1.535E-02	0.00	9.661E-03	0.00	2.471E-05	2.102E-05	2.471E-05	2.102E-05
23 - 24	1.184E-02	0.00	1.402E-02	0.00	1.075E-02	0.00	1.523E-02	0.00	9.854E-03	0.00	1.923E-05	1.636E-05	1.923E-05	1.636E-05
24 - 25	1.288E-02	0.00	1.424E-02	0.00	1.112E-02	0.00	1.611E-02	0.00	9.223E-03	0.00	1.570E-05	1.335E-05	1.570E-05	1.335E-05
25 - 30	1.527E-02	0.00	1.667E-02	0.00	1.070E-02	0.00	1.808E-02	0.00	9.690E-03	0.00	8.376E-06	7.124E-06	8.376E-06	7.124E-06
30 - 35	1.256E-02	0.00	1.390E-02	0.00	7.602E-03	0.00	2.423E-02	0.00	6.376E-03	0.00	2.391E-06	2.034E-06	2.391E-06	2.034E-06
35 - 40	1.055E-02	0.00	1.211E-02	0.00	6.681E-03	0.00	1.319E-02	0.00	5.181E-03	0.00	0.	0.	0.	0.
40 - 45	7.917E-03	0.00	9.403E-03	0.00	5.491E-03	0.00	1.040E-02	0.00	3.849E-03	0.00	0.	0.	0.	0.
45 - 50	5.166E-03	0.00	6.353E-03	0.00	3.811E-03	0.00	6.872E-03	0.00	2.733E-03	0.00	0.	0.	0.	0.
50 - 70	8.146E-04	0.00	9.669E-04	0.00	2.447E-04	0.00	9.870E-04	0.00	6.819E-04	0.00	0.	0.	0.	0.
70 -100	1.537E-05	0.00	1.749E-05	0.00	1.544E-04	0.00	1.776E-05	0.00	1.695E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.458271 MICROMETERS

FREQUENCY = 953.181 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.127E-01	0.00	3.100E-01	0.00	6.152E-02	0.00	1.670E-01	0.00	3.137E-02	0.00	5.481E-03	4.664E-03	2.671E-02	2.273E-02
0 - 1	3.759E-01	0.00	2.306E-01	0.00	5.381E-02	0.00	1.289E-01	0.00	3.172E-02	0.00	3.741E-03	3.183E-03	1.634E-02	1.433E-02
1 - 2	2.128E-01	0.00	1.297E-01	0.00	4.301E-02	0.00	8.269E-02	0.00	2.996E-02	0.00	1.632E-03	1.389E-03	5.417E-03	4.609E-03
2 - 3	1.126E-01	0.00	7.668E-02	0.00	3.569E-02	0.00	5.771E-02	0.00	2.630E-02	0.00	6.965E-04	5.927E-04	1.832E-03	1.501E-03
3 - 4	6.218E-02	0.00	5.195E-02	0.00	2.932E-02	0.00	4.326E-02	0.00	2.288E-02	0.00	3.235E-04	2.753E-04	8.220E-04	6.995E-04
4 - 5	4.419E-02	0.00	3.852E-02	0.00	2.407E-02	0.00	3.345E-02	0.00	1.874E-02	0.00	2.014E-04	1.714E-04	3.002E-04	2.555E-04
5 - 6	3.551E-02	0.00	3.301E-02	0.00	1.991E-02	0.00	2.732E-02	0.00	1.519E-02	0.00	1.471E-04	1.252E-04	1.471E-04	1.252E-04
6 - 7	2.880E-02	0.00	2.740E-02	0.00	1.665E-02	0.00	2.147E-02	0.00	1.222E-02	0.00	1.185E-04	1.009E-04	1.185E-04	1.009E-04
7 - 8	2.369E-02	0.00	2.254E-02	0.00	1.376E-02	0.00	1.754E-02	0.00	9.745E-03	0.00	1.160E-04	9.868E-05	1.160E-04	9.868E-05
8 - 9	1.997E-02	0.00	1.819E-02	0.00	1.148E-02	0.00	1.417E-02	0.00	8.192E-03	0.00	1.153E-04	9.808E-05	1.153E-04	9.808E-05
9 - 10	1.613E-02	0.00	1.531E-02	0.00	9.083E-03	0.00	1.124E-02	0.00	7.689E-03	0.00	1.115E-04	9.483E-05	1.115E-04	9.483E-05
10 - 11	1.322E-02	0.00	1.267E-02	0.00	8.360E-03	0.00	9.929E-03	0.00	7.680E-03	0.00	1.056E-04	9.067E-05	1.056E-04	9.057E-05
11 - 12	1.059E-02	0.00	1.020E-02	0.00	8.099E-03	0.00	1.021E-02	0.00	7.669E-03	0.00	1.057E-04	8.994E-05	1.057E-04	8.994E-05
12 - 13	8.773E-03	0.00	8.139E-03	0.00	8.010E-03	0.00	9.811E-03	0.00	7.520E-03	0.00	1.041E-04	8.859E-05	1.041E-04	8.859E-05
13 - 14	6.476E-03	0.00	7.219E-03	0.00	8.014E-03	0.00	1.021E-02	0.00	7.845E-03	0.00	9.895E-05	8.420E-05	9.895E-05	8.420E-05
14 - 15	5.297E-03	0.00	7.535E-03	0.00	7.743E-03	0.00	1.016E-02	0.00	7.658E-03	0.00	9.493E-05	8.078E-05	9.493E-05	8.078E-05
15 - 16	4.057E-03	0.00	7.354E-03	0.00	7.545E-03	0.00	9.695E-03	0.00	7.567E-03	0.00	8.974E-05	7.636E-05	8.974E-05	7.636E-05
16 - 17	3.186E-03	0.00	7.249E-03	0.00	7.412E-03	0.00	1.011E-02	0.00	7.465E-03	0.00	8.698E-05	7.401E-05	8.698E-05	7.401E-05
17 - 18	3.398E-03	0.00	7.336E-03	0.00	7.416E-03	0.00	1.001E-02	0.00	7.224E-03	0.00	8.506E-05	7.238E-05	8.506E-05	7.238E-05
18 - 19	4.067E-03	0.00	7.401E-03	0.00	7.169E-03	0.00	9.977E-03	0.00	7.147E-03	0.00	7.689E-05	6.543E-05	7.689E-05	6.543E-05
19 - 20	4.755E-03	0.00	7.686E-03	0.00	6.973E-03	0.00	1.012E-02	0.00	6.057E-03	0.00	6.062E-05	5.158E-05	6.062E-05	5.158E-05
20 - 21	5.629E-03	0.00	7.873E-03	0.00	7.127E-03	0.00	9.872E-03	0.00	6.823E-03	0.00	4.423E-05	3.763E-05	4.423E-05	3.763E-05
21 - 22	6.576E-03	0.00	8.297E-03	0.00	7.138E-03	0.00	1.006E-02	0.00	6.614E-03	0.00	3.264E-05	2.777E-05	3.264E-05	2.777E-05
22 - 23	7.251E-03	0.00	8.570E-03	0.00	7.114E-03	0.00	1.006E-02	0.00	6.361E-03	0.00	2.476E-05	2.107E-05	2.476E-05	2.107E-05
23 - 24	7.782E-03	0.00	9.394E-03	0.00	7.071E-03	0.00	9.980E-03	0.00	6.489E-03	0.00	1.927E-05	1.639E-05	1.927E-05	1.639E-05
24 - 25	8.458E-03	0.00	9.340E-03	0.00	7.312E-03	0.00	1.056E-02	0.00	6.075E-03	0.00	1.573E-05	1.338E-05	1.573E-05	1.338E-05
25 - 30	1.000E-02	0.00	1.091E-02	0.00	7.035E-03	0.00	1.183E-02	0.00	6.378E-03	0.00	8.392E-06	7.140E-06	8.392E-06	7.140E-06
30 - 35	9.140E-03	0.00	1.007E-02	0.00	5.578E-03	0.00	1.581E-02	0.00	4.705E-03	0.00	2.396E-06	2.039E-06	2.396E-06	2.039E-06
35 - 40	7.996E-03	0.00	9.137E-03	0.00	5.107E-03	0.00	9.943E-03	0.00	3.982E-03	0.00	0.	0.	0.	0.
40 - 45	6.144E-03	0.00	7.274E-03	0.00	4.289E-03	0.00	8.033E-03	0.00	3.021E-03	0.00	0.	0.	0.	0.
45 - 50	4.060E-03	0.00	4.980E-03	0.00	3.008E-03	0.00	5.382E-03	0.00	2.165E-03	0.00	0.	0.	0.	0.
50 - 70	6.503E-04	0.00	7.708E-04	0.00	1.954E-04	0.00	7.867E-04	0.00	5.445E-04	0.00	0.	0.	0.	0.
70 -100	1.247E-05	0.00	1.420E-05	0.00	1.251E-04	0.00	1.443E-05	0.00	1.369E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.440526 MICROMETERS

FREQUENCY = 957.797 WAVENUMBERS

HT (KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.840E-01	0.00	2.869E-01	0.00	4.979E-02	0.00	1.488E-01	0.00	2.359E-02	0.00	5.491E-03	4.674E-03	2.675E-02	2.279E-02
0 - 1	3.510E-01	0.00	2.099E-01	0.00	4.280E-02	0.00	1.124E-01	0.00	2.375E-02	0.00	3.748E-03	3.190E-03	1.637E-02	1.435E-02
1 - 2	1.931E-01	0.00	1.127E-01	0.00	3.308E-02	0.00	6.893E-02	0.00	2.219E-02	0.00	1.635E-03	1.392E-03	5.427E-03	4.520E-03
2 - 3	9.648E-02	0.00	6.249E-02	0.00	2.666E-02	0.00	4.595E-02	0.00	1.921E-02	0.00	5.978E-04	5.940E-04	1.836E-03	1.505E-03
3 - 4	4.858E-02	0.00	3.973E-02	0.00	2.135E-02	0.00	3.291E-02	0.00	1.649E-02	0.00	3.241E-04	2.759E-04	8.235E-04	7.010E-04
4 - 5	3.287E-02	0.00	2.829E-02	0.00	1.726E-02	0.00	2.464E-02	0.00	1.336E-02	0.00	2.018E-04	1.718E-04	3.008E-04	2.550E-04
5 - 6	2.580E-02	0.00	2.299E-02	0.00	1.416E-02	0.00	1.969E-02	0.00	1.077E-02	0.00	1.474E-04	1.255E-04	1.474E-04	1.255E-04
6 - 7	2.059E-02	0.00	1.949E-02	0.00	1.179E-02	0.00	1.531E-02	0.00	8.653E-03	0.00	1.187E-04	1.011E-04	1.1[illegible]E-04	1.011E-04
7 - 8	1.680E-02	0.00	1.596E-02	0.00	9.716E-03	0.00	1.243E-02	0.00	6.895E-03	0.00	1.162E-04	9.890E-05	1.152E-04	9.890E-05
8 - 9	1.411E-02	0.00	1.286E-02	0.00	8.111E-03	0.00	1.001E-02	0.00	5.798E-03	0.00	1.155E-04	9.830E-05	1.155E-04	9.830E-05
9 - 10	1.138E-02	0.00	1.081E-02	0.00	6.422E-03	0.00	7.941E-03	0.00	5.443E-03	0.00	1.117E-04	9.505E-05	1.117E-04	9.505E-05
10 - 11	9.327E-03	0.00	8.946E-03	0.00	5.915E-03	0.00	7.016E-03	0.00	5.436E-03	0.00	1.068E-04	9.088E-05	1.058E-04	9.098E-05
11 - 12	7.481E-03	0.00	7.264E-03	0.00	5.730E-03	0.00	7.216E-03	0.00	5.428E-03	0.00	1.059E-04	9.015E-05	1.059E-04	9.015E-05
12 - 13	6.204E-03	0.00	5.758E-03	0.00	5.667E-03	0.00	6.930E-03	0.00	5.322E-03	0.00	1.043E-04	8.878E-05	1.043E-04	8.878E-05
13 - 14	4.583E-03	0.00	5.111E-03	0.00	5.671E-03	0.00	7.213E-03	0.00	5.552E-03	0.00	9.914E-05	8.439E-05	9.914E-05	8.439E-05
14 - 15	3.759E-03	0.00	5.334E-03	0.00	5.479E-03	0.00	7.174E-03	0.00	5.419E-03	0.00	9.511E-05	8.096E-05	9.511E-05	8.095E-05
15 - 16	2.885E-03	0.00	5.206E-03	0.00	5.340E-03	0.00	6.847E-03	0.00	5.356E-03	0.00	8.990E-05	7.653E-05	8.990E-05	7.653E-05
16 - 17	2.269E-03	0.00	5.129E-03	0.00	5.246E-03	0.00	7.144E-03	0.00	5.242E-03	0.00	8.714E-05	7.418E-05	8.714E-05	7.418E-05
17 - 18	2.418E-03	0.00	5.193E-03	0.00	5.250E-03	0.00	7.068E-03	0.00	5.115E-03	0.00	8.522E-05	7.254E-05	8.522E-05	7.254E-05
18 - 19	2.891E-03	0.00	5.238E-03	0.00	5.075E-03	0.00	7.047E-03	0.00	5.060E-03	0.00	7.703E-05	6.557E-05	7.703E-05	6.557E-05
19 - 20	3.377E-03	0.00	5.439E-03	0.00	4.937E-03	0.00	7.150E-03	0.00	4.877E-03	0.00	6.074E-05	5.170E-05	6.074E-05	5.170E-05
20 - 21	3.992E-03	0.00	5.570E-03	0.00	5.046E-03	0.00	6.972E-03	0.00	4.832E-03	0.00	4.431E-05	3.772E-05	4.431E-05	3.772E-05
21 - 22	4.659E-03	0.00	5.868E-03	0.00	5.054E-03	0.00	7.108E-03	0.00	4.686E-03	0.00	3.270E-05	2.783E-05	3.270E-05	2.783E-05
22 - 23	5.133E-03	0.00	6.059E-03	0.00	5.037E-03	0.00	7.108E-03	0.00	4.507E-03	0.00	2.480E-05	2.111E-05	2.480E-05	2.111E-05
23 - 24	5.506E-03	0.00	6.639E-03	0.00	5.006E-03	0.00	7.048E-03	0.00	4.598E-03	0.00	1.930E-05	1.643E-05	1.930E-05	1.643E-05
24 - 25	5.981E-03	0.00	6.599E-03	0.00	5.177E-03	0.00	7.451E-03	0.00	4.306E-03	0.00	1.575E-05	1.341E-05	1.575E-05	1.341E-05
25 - 30	7.064E-03	0.00	7.701E-03	0.00	4.979E-03	0.00	8.342E-03	0.00	4.518E-03	0.00	8.407E-06	7.156E-06	8.407E-06	7.156E-06
30 - 35	6.431E-03	0.00	7.080E-03	0.00	3.938E-03	0.00	1.112E-02	0.00	3.326E-03	0.00	2.400E-06	2.043E-06	2.400E-06	2.043E-06
35 - 40	5.612E-03	0.00	6.409E-03	0.00	3.593E-03	0.00	6.970E-03	0.00	2.806E-03	0.00	0.	0.	0.	0.
40 - 45	4.302E-03	0.00	5.089E-03	0.00	3.008E-03	0.00	5.616E-03	0.00	2.123E-03	0.00	0.	0.	0.	0.
45 - 50	2.838E-03	0.00	3.478E-03	0.00	2.105E-03	0.00	3.757E-03	0.00	1.517E-03	0.00	0.	0.	0.	0.
50 - 70	4.566E-04	0.00	5.409E-04	0.00	1.371E-04	0.00	5.521E-04	0.00	3.817E-04	0.00	0.	0.	0.	0.
70 - 100	8.819E-06	0.00	1.004E-05	0.00	8.830E-06	0.00	1.020E-05	0.00	9.647E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.423312 MICROMETERS

FREQUENCY = 959.398 WAVENUMBERS

HT (KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	9.778E-01	0.00	5.667E-01	0.00	7.534E-02	0.00	2.818E-01	0.00	2.818E-02	0.00	5.501E-03	4.685E-03	2.631E-02	2.233E-02
0 - 1	7.166E-01	0.00	4.235E-01	0.00	6.317E-02	0.00	2.110E-01	0.00	2.866E-02	0.00	3.755E-03	3.197E-03	1.690E-02	1.439E-02
1 - 2	3.942E-01	0.00	2.292E-01	0.00	4.595E-02	0.00	1.221E-01	0.00	2.663E-02	0.00	1.638E-03	1.395E-03	5.437E-03	4.630E-03
2 - 3	1.962E-01	0.00	1.180E-01	0.00	3.462E-02	0.00	7.408E-02	0.00	2.233E-02	0.00	6.991E-04	5.953E-04	1.839E-03	1.500E-03
3 - 4	8.727E-02	0.00	6.405E-02	0.00	2.559E-02	0.00	4.737E-02	0.00	1.849E-02	0.00	3.247E-04	2.765E-04	8.250E-04	7.025E-04
4 - 5	4.875E-02	0.00	3.883E-02	0.00	1.943E-02	0.00	3.172E-02	0.00	1.453E-02	0.00	2.022E-04	1.721E-04	3.013E-04	2.556E-04
5 - 6	3.341E-02	0.00	2.789E-02	0.00	1.543E-02	0.00	2.299E-02	0.00	1.153E-02	0.00	1.477E-04	1.257E-04	1.477E-04	1.257E-04
6 - 7	2.411E-02	0.00	2.212E-02	0.00	1.262E-02	0.00	1.694E-02	0.00	9.209E-03	0.00	1.190E-04	1.013E-04	1.190E-04	1.013E-04
7 - 8	1.858E-02	0.00	1.746E-02	0.00	1.033E-02	0.00	1.338E-02	0.00	7.325E-03	0.00	1.164E-04	9.912E-05	1.154E-04	9.912E-05
8 - 9	1.519E-02	0.00	1.382E-02	0.00	8.613E-03	0.00	1.066E-02	0.00	6.161E-03	0.00	1.157E-04	9.851E-05	1.157E-04	9.851E-05
9 - 10	1.212E-02	0.00	1.152E-02	0.00	6.822E-03	0.00	8.434E-03	0.00	5.786E-03	0.00	1.119E-04	9.526E-05	1.119E-04	9.526E-05
10 - 11	9.902E-03	0.00	9.503E-03	0.00	6.285E-03	0.00	7.450E-03	0.00	5.779E-03	0.00	1.070E-04	9.108E-05	1.070E-04	9.108E-05
11 - 12	7.940E-03	0.00	7.712E-03	0.00	6.090E-03	0.00	7.662E-03	0.00	5.771E-03	0.00	1.061E-04	9.034E-05	1.051E-04	9.034E-05
12 - 13	6.589E-03	0.00	6.118E-03	0.00	6.023E-03	0.00	7.358E-03	0.00	5.658E-03	0.00	1.045E-04	8.898E-05	1.045E-04	8.899E-05
13 - 14	4.873E-03	0.00	5.433E-03	0.00	6.027E-03	0.00	7.658E-03	0.00	5.902E-03	0.00	9.932E-05	8.457E-05	9.932E-05	8.457E-05
14 - 15	4.002E-03	0.00	5.670E-03	0.00	5.824E-03	0.00	7.616E-03	0.00	5.761E-03	0.00	9.528E-05	8.114E-05	9.523E-05	8.114E-05
15 - 16	3.075E-03	0.00	5.534E-03	0.00	5.676E-03	0.00	7.269E-03	0.00	5.694E-03	0.00	9.006E-05	7.669E-05	9.036E-05	7.559E-05
16 - 17	2.420E-03	0.00	5.452E-03	0.00	5.577E-03	0.00	7.584E-03	0.00	5.573E-03	0.00	8.730E-05	7.434E-05	8.730E-05	7.434E-05
17 - 18	2.579E-03	0.00	5.520E-03	0.00	5.581E-03	0.00	7.504E-03	0.00	5.438E-03	0.00	8.537E-05	7.270E-05	8.537E-05	7.270E-05
18 - 19	3.081E-03	0.00	5.568E-03	0.00	5.396E-03	0.00	7.480E-03	0.00	5.381E-03	0.00	7.717E-05	6.572E-05	7.717E-05	6.572E-05
19 - 20	3.596E-03	0.00	5.780E-03	0.00	5.249E-03	0.00	7.590E-03	0.00	5.186E-03	0.00	5.085E-05	5.181E-05	6.035E-05	5.181E-05
20 - 21	4.249E-03	0.00	5.918E-03	0.00	5.365E-03	0.00	7.401E-03	0.00	5.139E-03	0.00	4.439E-05	3.780E-05	4.432E-05	3.780E-05
21 - 22	4.954E-03	0.00	6.234E-03	0.00	5.373E-03	0.00	7.545E-03	0.00	4.983E-03	0.00	3.276E-05	2.789E-05	3.275E-05	2.789E-05
22 - 23	5.456E-03	0.00	6.435E-03	0.00	5.355E-03	0.00	7.544E-03	0.00	4.793E-03	0.00	2.485E-05	2.116E-05	2.435E-05	2.115E-05
23 - 24	5.851E-03	0.00	7.049E-03	0.00	5.322E-03	0.00	7.480E-03	0.00	4.891E-03	0.00	1.934E-05	1.647E-05	1.934E-05	1.647E-05
24 - 25	6.353E-03	0.00	7.005E-03	0.00	5.504E-03	0.00	7.906E-03	0.00	4.580E-03	0.00	1.578E-05	1.344E-05	1.573E-05	1.344E-05
25 - 30	7.495E-03	0.00	8.168E-03	0.00	5.292E-03	0.00	8.845E-03	0.00	4.803E-03	0.00	8.422E-06	7.172E-06	8.422E-06	7.172E-06
30 - 35	4.448E-03	0.00	4.971E-03	0.00	2.704E-03	0.00	1.178E-02	0.00	2.251E-03	0.00	2.405E-06	2.048E-06	2.405E-06	2.048E-06
35 - 40	3.404E-03	0.00	3.927E-03	0.00	2.153E-03	0.00	4.271E-03	0.00	1.668E-03	0.00	0.	0.	0.	0.
40 - 45	2.415E-03	0.00	2.873E-03	0.00	1.671E-03	0.00	3.171E-03	0.00	1.174E-03	0.00	0.	0.	0.	0.
45 - 50	1.529E-03	0.00	1.880E-03	0.00	1.126E-03	0.00	2.032E-03	0.00	8.090E-04	0.00	0.	0.	0.	0.
50 - 70	2.402E-04	0.00	2.850E-04	0.00	7.181E-05	0.00	2.912E-04	0.00	1.993E-04	0.00	0.	0.	0.	0.
70 - 100	4.573E-06	0.00	5.206E-06	0.00	4.574E-05	0.00	5.292E-06	0.00	4.991E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.397940 MICROMETERS

FREQUENCY = 961.729 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.564E-01	0.00	2.629E-01	0.00	3.473E-02	0.00	1.282E-01	0.00	1.298E-02	0.00	5.516E-03	4.700E-03	2.638E-02	2.290E-02
0 - 1	3.256E-01	0.00	1.871E-01	0.00	2.842E-02	0.00	9.287E-02	0.00	1.289E-02	0.00	3.765E-03	3.209E-03	1.695E-02	1.444E-02
1 - 2	1.709E-01	0.00	9.222E-02	0.00	1.979E-02	0.00	5.160E-02	0.00	1.153E-02	0.00	1.543E-03	1.400E-03	5.451E-03	4.545E-03
2 - 3	7.660E-02	0.00	4.407E-02	0.00	1.438E-02	0.00	3.053E-02	0.00	9.404E-03	0.00	7.009E-04	5.972E-04	1.834E-03	1.513E-03
3 - 4	3.069E-02	0.00	2.343E-02	0.00	1.037E-02	0.00	1.896E-02	0.00	7.579E-03	0.00	3.255E-04	2.774E-04	9.272E-04	7.048E-04
4 - 5	1.756E-02	0.00	1.436E-02	0.00	7.765E-03	0.00	1.258E-02	0.00	5.825E-03	0.00	2.027E-04	1.727E-04	3.021E-04	2.574E-04
5 - 6	1.248E-02	0.00	1.055E-02	0.00	6.103E-03	0.00	9.095E-03	0.00	4.542E-03	0.00	1.481E-04	1.261E-04	1.431E-04	1.251E-04
6 - 7	9.213E-03	0.00	8.501E-03	0.00	4.930E-03	0.00	6.683E-03	0.00	3.593E-03	0.00	1.193E-04	1.016E-04	1.193E-04	1.015E-04
7 - 8	7.178E-03	0.00	6.762E-03	0.00	4.001E-03	0.00	5.236E-03	0.00	2.833E-03	0.00	1.167E-04	9.943E-05	1.157E-04	9.943E-05
8 - 9	5.880E-03	0.00	5.356E-03	0.00	3.322E-03	0.00	4.132E-03	0.00	2.374E-03	0.00	1.160E-04	9.883E-05	1.156E-04	9.893E-05
9 - 10	4.682E-03	0.00	4.458E-03	0.00	2.627E-03	0.00	3.252E-03	0.00	2.227E-03	0.00	1.122E-04	9.556E-05	1.122E-04	9.555E-05
10 - 11	3.814E-03	0.00	3.665E-03	0.00	2.418E-03	0.00	2.857E-03	0.00	2.222E-03	0.00	1.072E-04	9.137E-05	1.072E-04	9.137E-05
11 - 12	3.053E-03	0.00	2.967E-03	0.00	2.342E-03	0.00	2.945E-03	0.00	2.218E-03	0.00	1.064E-04	9.063E-05	1.054E-04	9.053E-05
12 - 13	2.533E-03	0.00	2.352E-03	0.00	2.315E-03	0.00	2.827E-03	0.00	2.174E-03	0.00	1.048E-04	8.927E-05	1.048E-04	8.927E-05
13 - 14	1.874E-03	0.00	2.088E-03	0.00	2.316E-03	0.00	2.941E-03	0.00	2.268E-03	0.00	9.958E-05	8.485E-05	9.959E-05	8.485E-05
14 - 15	1.539E-03	0.00	2.179E-03	0.00	2.238E-03	0.00	2.925E-03	0.00	2.213E-03	0.00	9.553E-05	8.140E-05	9.553E-05	8.140E-05
15 - 16	1.183E-03	0.00	2.127E-03	0.00	2.181E-03	0.00	2.791E-03	0.00	2.187E-03	0.00	9.030E-05	7.694E-05	9.030E-05	7.594E-05
16 - 17	9.317E-04	0.00	2.095E-03	0.00	2.143E-03	0.00	2.912E-03	0.00	2.141E-03	0.00	8.753E-05	7.458E-05	8.753E-05	7.459E-05
17 - 18	9.928E-04	0.00	2.121E-03	0.00	2.144E-03	0.00	2.881E-03	0.00	2.089E-03	0.00	8.560E-05	7.293E-05	8.550E-05	7.293E-05
18 - 19	1.186E-03	0.00	2.139E-03	0.00	2.073E-03	0.00	2.872E-03	0.00	2.067E-03	0.00	7.738E-05	6.593E-05	7.738E-05	6.593E-05
19 - 20	1.393E-03	0.00	2.221E-03	0.00	2.017E-03	0.00	2.914E-03	0.00	1.993E-03	0.00	5.101E-05	5.198E-05	5.101E-05	5.198E-05
20 - 21	1.634E-03	0.00	2.274E-03	0.00	2.062E-03	0.00	2.842E-03	0.00	1.975E-03	0.00	4.451E-05	3.792E-05	4.451E-05	3.792E-05
21 - 22	1.904E-03	0.00	2.395E-03	0.00	2.065E-03	0.00	2.897E-03	0.00	1.915E-03	0.00	3.284E-05	2.799E-05	3.234E-05	2.799E-05
22 - 23	2.096E-03	0.00	2.472E-03	0.00	2.058E-03	0.00	2.897E-03	0.00	1.842E-03	0.00	2.491E-05	2.123E-05	2.491E-05	2.123E-05
23 - 24	2.248E-03	0.00	2.708E-03	0.00	2.045E-03	0.00	2.872E-03	0.00	1.880E-03	0.00	1.939E-05	1.652E-05	1.939E-05	1.552E-05
24 - 25	2.441E-03	0.00	2.690E-03	0.00	2.115E-03	0.00	3.036E-03	0.00	1.760E-03	0.00	1.582E-05	1.348E-05	1.532E-05	1.348E-05
25 - 30	2.878E-03	0.00	3.136E-03	0.00	2.034E-03	0.00	3.395E-03	0.00	1.646E-03	0.00	9.445E-06	7.195E-06	9.446E-06	7.195E-06
30 - 35	2.050E-03	0.00	2.278E-03	0.00	1.252E-03	0.00	4.518E-03	0.00	1.048E-03	0.00	2.411E-06	2.054E-05	2.411E-06	2.054E-06
35 - 40	1.639E-03	0.00	1.884E-03	0.00	1.042E-03	0.00	2.049E-03	0.00	8.101E-04	0.00	0.	0.	0.	0.
40 - 45	1.191E-03	0.00	1.414E-03	0.00	8.274E-04	0.00	1.560E-03	0.00	5.827E-04	0.00	0.	0.	0.	0.
45 - 50	7.635E-04	0.00	9.372E-04	0.00	5.636E-04	0.00	1.013E-03	0.00	4.057E-04	0.00	0.	0.	0.	0.
50 - 70	1.211E-04	0.00	1.436E-04	0.00	3.623E-05	0.00	1.466E-04	0.00	1.005E-04	0.00	0.	0.	0.	0.
70 - 100	2.323E-06	0.00	2.645E-06	0.00	2.322E-05	0.00	2.688E-06	0.00	2.533E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.381413 MICROMETERS

FREQUENCY = 963.260 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	4.610E-01	0.00	2.686E-01	0.00	4.018E-02	0.00	1.345E-01	0.00	1.702E-02	0.00	5.526E-03	4.710E-03	2.693E-02	2.295E-02
0 - 1	3.311E-01	0.00	1.934E-01	0.00	3.370E-02	0.00	9.919E-02	0.00	1.703E-02	0.00	3.771E-03	3.214E-03	1.699E-02	1.447E-02
1 - 2	1.773E-01	0.00	9.890E-02	0.00	2.478E-02	0.00	5.769E-02	0.00	1.561E-02	0.00	1.646E-03	1.403E-03	5.451E-03	4.554E-03
2 - 3	8.333E-02	0.00	5.068E-02	0.00	1.906E-02	0.00	3.619E-02	0.00	1.318E-02	0.00	7.022E-04	5.985E-04	1.897E-03	1.517E-03
3 - 4	3.730E-02	0.00	2.954E-02	0.00	1.460E-02	0.00	2.422E-02	0.00	1.103E-02	0.00	3.261E-04	2.779E-04	8.237E-04	7.053E-04
4 - 5	2.338E-02	0.00	1.968E-02	0.00	1.144E-02	0.00	1.720E-02	0.00	8.755E-03	0.00	2.030E-04	1.731E-04	3.027E-04	2.590E-04
5 - 6	1.760E-02	0.00	1.535E-02	0.00	9.237E-03	0.00	1.319E-02	0.00	6.972E-03	0.00	1.483E-04	1.264E-04	1.433E-04	1.254E-04
6 - 7	1.361E-02	0.00	1.276E-02	0.00	7.602E-03	0.00	1.003E-02	0.00	5.570E-03	0.00	1.195E-04	1.018E-04	1.195E-04	1.018E-04
7 - 8	1.091E-02	0.00	1.034E-02	0.00	6.233E-03	0.00	8.038E-03	0.00	4.423E-03	0.00	1.169E-04	9.964E-05	1.159E-04	9.954E-05
8 - 9	9.083E-03	0.00	8.279E-03	0.00	5.195E-03	0.00	6.427E-03	0.00	3.716E-03	0.00	1.162E-04	9.904E-05	1.152E-04	9.904E-05
9 - 10	7.294E-03	0.00	6.937E-03	0.00	4.114E-03	0.00	5.086E-03	0.00	3.489E-03	0.00	1.124E-04	9.576E-05	1.124E-04	9.575E-05
10 - 11	5.967E-03	0.00	5.729E-03	0.00	3.789E-03	0.00	4.492E-03	0.00	3.484E-03	0.00	1.074E-04	9.156E-05	1.074E-04	9.155E-05
11 - 12	4.785E-03	0.00	4.649E-03	0.00	3.672E-03	0.00	4.619E-03	0.00	3.480E-03	0.00	1.066E-04	9.082E-05	1.056E-04	9.092E-05
12 - 13	3.970E-03	0.00	3.687E-03	0.00	3.631E-03	0.00	4.435E-03	0.00	3.412E-03	0.00	1.050E-04	8.945E-05	1.050E-04	8.945E-05
13 - 14	2.936E-03	0.00	3.274E-03	0.00	3.633E-03	0.00	4.616E-03	0.00	3.559E-03	0.00	9.976E-05	8.502E-05	9.975E-05	8.502E-05
14 - 15	2.411E-03	0.00	3.417E-03	0.00	3.511E-03	0.00	4.591E-03	0.00	3.474E-03	0.00	9.570E-05	8.157E-05	9.570E-05	8.157E-05
15 - 16	1.852E-03	0.00	3.335E-03	0.00	3.421E-03	0.00	4.382E-03	0.00	3.434E-03	0.00	9.046E-05	7.710E-05	9.046E-05	7.710E-05
16 - 17	1.458E-03	0.00	3.285E-03	0.00	3.361E-03	0.00	4.577E-03	0.00	3.360E-03	0.00	8.768E-05	7.473E-05	8.758E-05	7.473E-05
17 - 18	1.554E-03	0.00	3.327E-03	0.00	3.364E-03	0.00	4.523E-03	0.00	3.279E-03	0.00	8.575E-05	7.309E-05	8.575E-05	7.309E-05
18 - 19	1.856E-03	0.00	3.355E-03	0.00	3.252E-03	0.00	4.509E-03	0.00	3.244E-03	0.00	7.751E-05	6.607E-05	7.751E-05	6.507E-05
19 - 20	2.167E-03	0.00	3.483E-03	0.00	3.163E-03	0.00	4.574E-03	0.00	3.126E-03	0.00	6.111E-05	5.209E-05	6.111E-05	5.209E-05
20 - 21	2.560E-03	0.00	3.566E-03	0.00	3.233E-03	0.00	4.460E-03	0.00	3.097E-03	0.00	4.459E-05	3.800E-05	4.459E-05	3.800E-05
21 - 22	2.985E-03	0.00	3.756E-03	0.00	3.238E-03	0.00	4.547E-03	0.00	3.003E-03	0.00	3.290E-05	2.804E-05	3.290E-05	2.804E-05
22 - 23	3.287E-03	0.00	3.877E-03	0.00	3.226E-03	0.00	4.546E-03	0.00	2.888E-03	0.00	2.496E-05	2.127E-05	2.496E-05	2.127E-05
23 - 24	3.525E-03	0.00	4.247E-03	0.00	3.207E-03	0.00	4.507E-03	0.00	2.947E-03	0.00	1.942E-05	1.655E-05	1.942E-05	1.655E-05
24 - 25	3.828E-03	0.00	4.221E-03	0.00	3.316E-03	0.00	4.763E-03	0.00	2.759E-03	0.00	1.585E-05	1.351E-05	1.585E-05	1.351E-05
25 - 30	4.515E-03	0.00	4.921E-03	0.00	3.188E-03	0.00	5.328E-03	0.00	2.894E-03	0.00	8.460E-06	7.210E-05	8.450E-06	7.210E-06
30 - 35	4.481E-03	0.00	4.909E-03	0.00	2.759E-03	0.00	7.094E-03	0.00	2.341E-03	0.00	2.415E-06	2.059E-05	2.415E-06	2.059E-06
35 - 40	4.077E-03	0.00	4.637E-03	0.00	2.629E-03	0.00	5.040E-03	0.00	2.062E-03	0.00	0.	0.	0.	0.
40 - 45	3.211E-03	0.00	3.787E-03	0.00	2.258E-03	0.00	4.177E-03	0.00	1.600E-03	0.00	0.	0.	0.	0.
45 - 50	2.151E-03	0.00	2.630E-03	0.00	1.601E-03	0.00	2.839E-03	0.00	1.157E-03	0.00	0.	0.	0.	0.
50 - 70	3.507E-04	0.00	4.150E-04	0.00	1.054E-04	0.00	4.234E-04	0.00	2.937E-04	0.00	0.	0.	0.	0.
70 -100	6.859E-06	0.00	7.809E-06	0.00	6.860E-05	0.00	7.937E-06	0.00	7.485E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.365218 MICROMETERS

FREQUENCY = 964.765 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.781E-01	0.00	2.841E-01	0.00	5.021E-02	0.00	1.481E-01	0.00	2.405E-02	0.00	5.535E-03	4.715E-03	2.697E-02	2.300E-02
0 - 1	3.472E-01	0.00	2.083E-01	0.00	4.326E-02	0.00	1.122E-01	0.00	2.423E-02	0.00	3.778E-03	3.221E-03	1.701E-02	1.450E-02
1 - 2	1.917E-01	0.00	1.125E-01	0.00	3.360E-02	0.00	6.921E-02	0.00	2.267E-02	0.00	1.648E-03	1.406E-03	5.470E-03	4.554E-03
2 - 3	9.651E-02	0.00	6.295E-02	0.00	2.720E-02	0.00	4.643E-02	0.00	1.957E-02	0.00	7.034E-04	5.997E-04	1.900E-03	1.520E-03
3 - 4	4.921E-02	0.00	4.038E-02	0.00	2.187E-02	0.00	3.348E-02	0.00	1.592E-02	0.00	3.267E-04	2.785E-04	8.331E-04	7.078E-04
4 - 5	3.355E-02	0.00	2.893E-02	0.00	1.772E-02	0.00	2.520E-02	0.00	1.374E-02	0.00	2.034E-04	1.734E-04	3.032E-04	2.585E-04
5 - 6	2.643E-02	0.00	2.360E-02	0.00	1.457E-02	0.00	2.020E-02	0.00	1.109E-02	0.00	1.485E-04	1.267E-04	1.436E-04	1.257E-04
6 - 7	2.115E-02	0.00	2.004E-02	0.00	1.213E-02	0.00	1.573E-02	0.00	8.911E-03	0.00	1.197E-04	1.020E-04	1.197E-04	1.020E-04
7 - 8	1.728E-02	0.00	1.642E-02	0.00	1.001E-02	0.00	1.279E-02	0.00	7.103E-03	0.00	1.171E-04	9.985E-05	1.171E-04	9.985E-05
8 - 9	1.453E-02	0.00	1.324E-02	0.00	8.357E-03	0.00	1.031E-02	0.00	5.974E-03	0.00	1.164E-04	9.924E-05	1.154E-04	9.924E-05
9 - 10	1.172E-02	0.00	1.113E-02	0.00	6.617E-03	0.00	8.181E-03	0.00	5.608E-03	0.00	1.125E-04	9.596E-05	1.125E-04	9.595E-05
10 - 11	9.609E-03	0.00	9.216E-03	0.00	6.094E-03	0.00	7.228E-03	0.00	5.601E-03	0.00	1.076E-04	9.175E-05	1.075E-04	9.175E-05
11 - 12	7.707E-03	0.00	7.484E-03	0.00	5.904E-03	0.00	7.435E-03	0.00	5.593E-03	0.00	1.067E-04	9.101E-05	1.057E-04	9.101E-05
12 - 13	6.392E-03	0.00	5.932E-03	0.00	5.839E-03	0.00	7.141E-03	0.00	5.484E-03	0.00	1.051E-04	8.964E-05	1.051E-04	8.954E-05
13 - 14	4.722E-03	0.00	5.266E-03	0.00	5.843E-03	0.00	7.432E-03	0.00	5.720E-03	0.00	9.993E-05	8.520E-05	9.993E-05	8.520E-05
14 - 15	3.873E-03	0.00	5.496E-03	0.00	5.646E-03	0.00	7.392E-03	0.00	5.584E-03	0.00	9.586E-05	8.174E-05	9.536E-05	8.174E-05
15 - 16	2.972E-03	0.00	5.364E-03	0.00	5.502E-03	0.00	7.055E-03	0.00	5.518E-03	0.00	9.062E-05	7.726E-05	9.052E-05	7.725E-05
16 - 17	2.338E-03	0.00	5.285E-03	0.00	5.405E-03	0.00	7.361E-03	0.00	5.401E-03	0.00	8.783E-05	7.489E-05	8.733E-05	7.489E-05
17 - 18	2.492E-03	0.00	5.351E-03	0.00	5.409E-03	0.00	7.283E-03	0.00	5.270E-03	0.00	8.590E-05	7.324E-05	8.590E-05	7.324E-05
18 - 19	2.979E-03	0.00	5.397E-03	0.00	5.229E-03	0.00	7.260E-03	0.00	5.214E-03	0.00	7.763E-05	6.620E-05	7.765E-05	6.620E-05
19 - 20	3.479E-03	0.00	5.604E-03	0.00	5.087E-03	0.00	7.367E-03	0.00	5.026E-03	0.00	6.122E-05	5.220E-05	6.122E-05	5.220E-05
20 - 21	4.114E-03	0.00	5.739E-03	0.00	5.200E-03	0.00	7.184E-03	0.00	4.979E-03	0.00	4.466E-05	3.808E-05	4.466E-05	3.808E-05
21 - 22	4.800E-03	0.00	6.046E-03	0.00	5.207E-03	0.00	7.324E-03	0.00	4.828E-03	0.00	3.296E-05	2.810E-05	3.296E-05	2.810E-05
22 - 23	5.289E-03	0.00	6.243E-03	0.00	5.190E-03	0.00	7.324E-03	0.00	4.643E-03	0.00	2.500E-05	2.132E-05	2.500E-05	2.132E-05
23 - 24	5.673E-03	0.00	6.840E-03	0.00	5.158E-03	0.00	7.262E-03	0.00	4.738E-03	0.00	1.946E-05	1.659E-05	1.946E-05	1.659E-05
24 - 25	6.163E-03	0.00	6.799E-03	0.00	5.334E-03	0.00	7.677E-03	0.00	4.436E-03	0.00	1.588E-05	1.354E-05	1.538E-05	1.354E-05
25 - 30	7.278E-03	0.00	7.934E-03	0.00	5.130E-03	0.00	8.595E-03	0.00	4.655E-03	0.00	8.474E-06	7.225E-06	8.474E-06	7.225E-06
30 - 35	7.231E-03	0.00	7.924E-03	0.00	4.441E-03	0.00	1.146E-02	0.00	3.767E-03	0.00	2.419E-06	2.063E-06	2.419E-06	2.063E-06
35 - 40	6.586E-03	0.00	7.493E-03	0.00	4.239E-03	0.00	8.147E-03	0.00	3.321E-03	0.00	0.	0.	0.	0.
40 - 45	5.193E-03	0.00	6.128E-03	0.00	3.648E-03	0.00	6.761E-03	0.00	2.581E-03	0.00	0.	0.	0.	0.
45 - 50	3.481E-03	0.00	4.259E-03	0.00	2.589E-03	0.00	4.599E-03	0.00	1.870E-03	0.00	0.	0.	0.	0.
50 - 70	5.659E-04	0.00	6.699E-04	0.00	1.702E-04	0.00	6.836E-04	0.00	4.744E-04	0.00	0.	0.	0.	0.
70 - 100	1.102E-05	0.00	1.254E-05	0.00	1.103E-04	0.00	1.275E-05	0.00	1.205E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.349321 MICROMETERS

FREQUENCY = 966.247 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.187E-01	0.00	3.141E-01	0.00	6.143E-02	0.00	1.691E-01	0.00	3.075E-02	0.00	5.544E-03	4.729E-03	2.702E-02	2.304E-02
0 - 1	3.802E-01	0.00	2.336E-01	0.00	5.351E-02	0.00	1.302E-01	0.00	3.107E-02	0.00	3.784E-03	3.228E-03	1.703E-02	1.453E-02
1 - 2	2.148E-01	0.00	1.309E-01	0.00	4.242E-02	0.00	8.284E-02	0.00	2.927E-02	0.00	1.651E-03	1.408E-03	5.479E-03	4.674E-03
2 - 3	1.132E-01	0.00	7.681E-02	0.00	3.496E-02	0.00	5.726E-02	0.00	2.560E-02	0.00	7.045E-04	6.009E-04	1.903E-03	1.623E-03
3 - 4	6.167E-02	0.00	5.127E-02	0.00	2.854E-02	0.00	4.252E-02	0.00	2.220E-02	0.00	3.272E-04	2.791E-04	8.315E-04	7.092E-04
4 - 5	4.333E-02	0.00	3.765E-02	0.00	2.334E-02	0.00	3.264E-02	0.00	1.814E-02	0.00	2.037E-04	1.738E-04	3.037E-04	2.590E-04
5 - 6	3.460E-02	0.00	3.110E-02	0.00	1.927E-02	0.00	2.652E-02	0.00	1.468E-02	0.00	1.488E-04	1.269E-04	1.438E-04	1.259E-04
6 - 7	2.794E-02	0.00	2.654E-02	0.00	1.610E-02	0.00	2.079E-02	0.00	1.181E-02	0.00	1.199E-04	1.023E-04	1.199E-04	1.023E-04
7 - 8	2.293E-02	0.00	2.180E-02	0.00	1.329E-02	0.00	1.696E-02	0.00	9.413E-03	0.00	1.173E-04	1.001E-04	1.173E-04	1.001E-04
8 - 9	1.930E-02	0.00	1.759E-02	0.00	1.109E-02	0.00	1.369E-02	0.00	7.914E-03	0.00	1.166E-04	9.944E-05	1.166E-04	9.944E-05
9 - 10	1.558E-02	0.00	1.479E-02	0.00	8.777E-03	0.00	1.086E-02	0.00	7.431E-03	0.00	1.127E-04	9.615E-05	1.127E-04	9.615E-05
10 - 11	1.277E-02	0.00	1.224E-02	0.00	8.081E-03	0.00	9.595E-03	0.00	7.428E-03	0.00	1.078E-04	9.193E-05	1.078E-04	9.193E-05
11 - 12	1.023E-02	0.00	9.934E-03	0.00	7.632E-03	0.00	9.875E-03	0.00	7.425E-03	0.00	1.069E-04	9.120E-05	1.069E-04	9.120E-05
12 - 13	8.471E-03	0.00	7.864E-03	0.00	7.750E-03	0.00	9.491E-03	0.00	7.287E-03	0.00	1.053E-04	8.982E-05	1.053E-04	8.982E-05
13 - 14	6.247E-03	0.00	6.978E-03	0.00	7.757E-03	0.00	9.883E-03	0.00	7.606E-03	0.00	1.001E-04	8.537E-05	1.001E-04	8.537E-05
14 - 15	5.114E-03	0.00	7.284E-03	0.00	7.498E-03	0.00	9.834E-03	0.00	7.430E-03	0.00	9.602E-05	8.190E-05	9.602E-05	8.190E-05
15 - 16	3.917E-03	0.00	7.112E-03	0.00	7.309E-03	0.00	9.393E-03	0.00	7.349E-03	0.00	9.077E-05	7.742E-05	9.077E-05	7.742E-05
16 - 17	3.076E-03	0.00	7.009E-03	0.00	7.192E-03	0.00	9.804E-03	0.00	7.195E-03	0.00	8.798E-05	7.504E-05	8.798E-05	7.504E-05
17 - 18	3.281E-03	0.00	7.100E-03	0.00	7.188E-03	0.00	9.705E-03	0.00	7.020E-03	0.00	8.604E-05	7.339E-05	8.604E-05	7.339E-05
18 - 19	3.929E-03	0.00	7.166E-03	0.00	6.950E-03	0.00	9.677E-03	0.00	6.942E-03	0.00	7.778E-05	6.634E-05	7.778E-05	6.634E-05
19 - 20	4.597E-03	0.00	7.446E-03	0.00	6.762E-03	0.00	9.817E-03	0.00	6.687E-03	0.00	6.132E-05	5.230E-05	6.132E-05	5.230E-05
20 - 21	5.444E-03	0.00	7.629E-03	0.00	6.910E-03	0.00	9.571E-03	0.00	6.620E-03	0.00	4.474E-05	3.816E-05	4.474E-05	3.816E-05
21 - 22	6.362E-03	0.00	8.038E-03	0.00	6.918E-03	0.00	9.751E-03	0.00	6.413E-03	0.00	3.301E-05	2.816E-05	3.301E-05	2.816E-05
22 - 23	7.018E-03	0.00	8.302E-03	0.00	6.891E-03	0.00	9.746E-03	0.00	6.163E-03	0.00	2.504E-05	2.136E-05	2.504E-05	2.136E-05
23 - 24	7.533E-03	0.00	9.095E-03	0.00	6.846E-03	0.00	9.661E-03	0.00	6.281E-03	0.00	1.949E-05	1.662E-05	1.949E-05	1.662E-05
24 - 25	8.186E-03	0.00	9.040E-03	0.00	7.076E-03	0.00	1.021E-02	0.00	5.877E-03	0.00	1.591E-05	1.357E-05	1.591E-05	1.357E-05
25 - 30	9.675E-03	0.00	1.055E-02	0.00	6.800E-03	0.00	1.143E-02	0.00	6.163E-03	0.00	8.488E-06	7.240E-06	8.488E-06	7.240E-06
30 - 35	9.620E-03	0.00	1.055E-02	0.00	5.886E-03	0.00	1.526E-02	0.00	4.988E-03	0.00	2.424E-06	2.067E-06	2.424E-06	2.067E-06
35 - 40	8.774E-03	0.00	9.989E-03	0.00	5.631E-03	0.00	1.087E-02	0.00	4.405E-03	0.00	0.	0.	0.	0.
40 - 45	6.930E-03	0.00	8.185E-03	0.00	4.860E-03	0.00	9.037E-03	0.00	3.431E-03	0.00	0.	0.	0.	0.
45 - 50	4.651E-03	0.00	5.696E-03	0.00	3.456E-03	0.00	6.153E-03	0.00	2.491E-03	0.00	0.	0.	0.	0.
50 - 70	7.528E-04	0.00	8.915E-04	0.00	2.266E-04	0.00	9.096E-04	0.00	6.320E-04	0.00	0.	0.	0.	0.
70 -100	1.455E-05	0.00	1.656E-05	0.00	1.459E-04	0.00	1.683E-05	0.00	1.597E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.333738 MICROMETERS

FREQUENCY = 967.704 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.054E-01	0.00	3.089E-01	0.00	6.627E-02	0.00	1.700E-01	0.00	3.524E-02	0.00	5.554E-03	4.738E-03	2.705E-02	2.309E-02
0 - 1	3.729E-01	0.00	2.322E-01	0.00	5.858E-02	0.00	1.330E-01	0.00	3.570E-02	0.00	3.790E-03	3.234E-03	1.705E-02	1.455E-02
1 - 2	2.149E-01	0.00	1.344E-01	0.00	4.773E-02	0.00	8.772E-02	0.00	3.392E-02	0.00	1.654E-03	1.411E-03	5.438E-03	4.593E-03
2 - 3	1.178E-01	0.00	8.280E-02	0.00	4.023E-02	0.00	6.289E-02	0.00	2.998E-02	0.00	7.057E-04	6.021E-04	1.907E-03	1.527E-03
3 - 4	6.850E-02	0.00	5.788E-02	0.00	3.348E-02	0.00	4.833E-02	0.00	2.625E-02	0.00	3.277E-04	2.796E-04	8.329E-04	7.105E-04
4 - 5	4.997E-02	0.00	4.383E-02	0.00	2.769E-02	0.00	3.799E-02	0.00	2.158E-02	0.00	2.041E-04	1.741E-04	3.042E-04	2.595E-04
5 - 6	4.064E-02	0.00	3.682E-02	0.00	2.298E-02	0.00	3.136E-02	0.00	1.752E-02	0.00	1.491E-04	1.272E-04	1.491E-04	1.272E-04
6 - 7	3.320E-02	0.00	3.165E-02	0.00	1.924E-02	0.00	2.476E-02	0.00	1.409E-02	0.00	1.201E-04	1.025E-04	1.201E-04	1.025E-04
7 - 8	2.740E-02	0.00	2.607E-02	0.00	1.589E-02	0.00	2.026E-02	0.00	1.122E-02	0.00	1.175E-04	1.002E-04	1.175E-04	1.002E-04
8 - 9	2.311E-02	0.00	2.105E-02	0.00	1.324E-02	0.00	1.636E-02	0.00	9.420E-03	0.00	1.168E-04	9.964E-05	1.168E-04	9.964E-05
9 - 10	1.866E-02	0.00	1.770E-02	0.00	1.046E-02	0.00	1.296E-02	0.00	8.835E-03	0.00	1.129E-04	9.635E-05	1.129E-04	9.635E-05
10 - 11	1.527E-02	0.00	1.463E-02	0.00	9.616E-03	0.00	1.144E-02	0.00	8.827E-03	0.00	1.080E-04	9.212E-05	1.080E-04	9.212E-05
11 - 12	1.221E-02	0.00	1.185E-02	0.00	9.313E-03	0.00	1.177E-02	0.00	8.815E-03	0.00	1.071E-04	9.138E-05	1.071E-04	9.138E-05
12 - 13	1.009E-02	0.00	9.359E-03	0.00	9.210E-03	0.00	1.131E-02	0.00	8.643E-03	0.00	1.055E-04	9.000E-05	1.055E-04	9.000E-05
13 - 14	7.424E-03	0.00	8.293E-03	0.00	9.213E-03	0.00	1.177E-02	0.00	9.016E-03	0.00	1.003E-04	8.554E-05	1.003E-04	8.554E-05
14 - 15	6.064E-03	0.00	8.655E-03	0.00	8.900E-03	0.00	1.170E-02	0.00	8.801E-03	0.00	9.618E-05	8.206E-05	9.618E-05	8.205E-05
15 - 16	4.632E-03	0.00	8.448E-03	0.00	8.670E-03	0.00	1.117E-02	0.00	8.695E-03	0.00	9.092E-05	7.757E-05	9.092E-05	7.757E-05
16 - 17	3.631E-03	0.00	8.322E-03	0.00	8.515E-03	0.00	1.166E-02	0.00	8.508E-03	0.00	8.813E-05	7.519E-05	8.813E-05	7.519E-05
17 - 18	3.873E-03	0.00	8.427E-03	0.00	8.518E-03	0.00	1.153E-02	0.00	8.298E-03	0.00	8.618E-05	7.353E-05	8.618E-05	7.353E-05
18 - 19	4.644E-03	0.00	8.502E-03	0.00	8.233E-03	0.00	1.150E-02	0.00	8.207E-03	0.00	7.790E-05	6.647E-05	7.790E-05	6.647E-05
19 - 20	5.439E-03	0.00	8.834E-03	0.00	8.007E-03	0.00	1.166E-02	0.00	7.907E-03	0.00	6.142E-05	5.241E-05	6.142E-05	5.241E-05
20 - 21	6.449E-03	0.00	9.052E-03	0.00	8.184E-03	0.00	1.137E-02	0.00	7.831E-03	0.00	4.481E-05	3.823E-05	4.481E-05	3.823E-05
21 - 22	7.545E-03	0.00	9.542E-03	0.00	8.197E-03	0.00	1.160E-02	0.00	7.590E-03	0.00	3.307E-05	2.821E-05	3.307E-05	2.821E-05
22 - 23	8.328E-03	0.00	9.861E-03	0.00	8.169E-03	0.00	1.160E-02	0.00	7.297E-03	0.00	2.508E-05	2.140E-05	2.508E-05	2.140E-05
23 - 24	8.945E-03	0.00	1.081E-02	0.00	8.119E-03	0.00	1.150E-02	0.00	7.443E-03	0.00	1.952E-05	1.666E-05	1.952E-05	1.666E-05
24 - 25	9.729E-03	0.00	1.076E-02	0.00	8.396E-03	0.00	1.217E-02	0.00	6.966E-03	0.00	1.593E-05	1.359E-05	1.593E-05	1.359E-05
25 - 30	1.153E-02	0.00	1.259E-02	0.00	8.081E-03	0.00	1.366E-02	0.00	7.319E-03	0.00	8.502E-06	7.254F-06	8.502E-06	7.254E-06
30 - 35	1.151E-02	0.00	1.263E-02	0.00	7.013E-03	0.00	1.830E-02	0.00	5.936E-03	0.00	2.428E-06	2.071E-06	2.428E-06	2.071E-06
35 - 40	1.053E-02	0.00	1.200E-02	0.00	6.736E-03	0.00	1.307E-02	0.00	5.258E-03	0.00	0.	0.	0.	0.
40 - 45	8.345E-03	0.00	9.867E-03	0.00	5.839E-03	0.00	1.090E-02	0.00	4.110E-03	0.00	0.	0.	0.	0.
45 - 50	5.611E-03	0.00	6.880E-03	0.00	4.164E-03	0.00	7.437E-03	0.00	2.995E-03	0.00	0.	0.	0.	0.
50 - 70	9.027E-04	0.00	1.070E-03	0.00	2.720E-04	0.00	1.091E-03	0.00	7.595E-04	0.00	0.	0.	0.	0.
70 - 100	1.728E-05	0.00	1.967E-05	0.00	1.737E-04	0.00	1.997E-05	0.00	1.905E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.318469 MICROMETERS

FREQUENCY = 969.136 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.102E-01	0.00	3.147E-01	0.00	7.140E-02	0.00	1.762E-01	0.00	3.885E-02	0.00	5.563E-03	4.748E-03	2.710E-02	2.313E-02
0 - 1	3.786E-01	0.00	2.385E-01	0.00	6.352E-02	0.00	1.392E-01	0.00	3.941E-02	0.00	3.796E-03	3.240E-03	1.709E-02	1.459E-02
1 - 2	2.213E-01	0.00	1.410E-01	0.00	5.235E-02	0.00	9.360E-02	0.00	3.758E-02	0.00	1.657E-03	1.414E-03	5.497E-03	4.692E-03
2 - 3	1.244E-01	0.00	8.923E-02	0.00	4.452E-02	0.00	6.826E-02	0.00	3.333E-02	0.00	7.068E-04	6.033E-04	1.910E-03	1.630E-03
3 - 4	7.490E-02	0.00	6.371E-02	0.00	3.729E-02	0.00	5.324E-02	0.00	2.927E-02	0.00	3.283E-04	2.802E-04	8.342E-04	7.120E-04
4 - 5	5.548E-02	0.00	4.883E-02	0.00	3.095E-02	0.00	4.223E-02	0.00	2.410E-02	0.00	2.044E-04	1.745E-04	3.047E-04	2.500E-04
5 - 6	4.539E-02	0.00	4.124E-02	0.00	2.569E-02	0.00	3.504E-02	0.00	1.955E-02	0.00	1.493E-04	1.274E-04	1.493E-04	1.274E-04
6 - 7	3.721E-02	0.00	3.550E-02	0.00	2.150E-02	0.00	2.770E-02	0.00	1.569E-02	0.00	1.203E-04	1.027E-04	1.203E-04	1.027E-04
7 - 8	3.072E-02	0.00	2.923E-02	0.00	1.774E-02	0.00	2.265E-02	0.00	1.248E-02	0.00	1.177E-04	1.004E-04	1.177E-04	1.004E-04
8 - 9	2.589E-02	0.00	2.357E-02	0.00	1.476E-02	0.00	1.827E-02	0.00	1.046E-02	0.00	1.170E-04	9.983E-05	1.170E-04	9.983E-05
9 - 10	2.087E-02	0.00	1.979E-02	0.00	1.164E-02	0.00	1.445E-02	0.00	9.819E-03	0.00	1.131E-04	9.653E-05	1.131E-04	9.653E-05
10 - 11	1.704E-02	0.00	1.633E-02	0.00	1.070E-02	0.00	1.275E-02	0.00	9.827E-03	0.00	1.081E-04	9.230E-05	1.031E-04	9.230E-05
11 - 12	1.360E-02	0.00	1.320E-02	0.00	1.037E-02	0.00	1.313E-02	0.00	9.837E-03	0.00	1.073E-04	9.156E-05	1.073E-04	9.156E-05
12 - 13	1.121E-02	0.00	1.041E-02	0.00	1.027E-02	0.00	1.262E-02	0.00	9.669E-03	0.00	1.057E-04	9.017E-05	1.057E-04	9.017E-05
13 - 14	8.223E-03	0.00	9.218E-03	0.00	1.028E-02	0.00	1.315E-02	0.00	1.010E-02	0.00	1.004E-04	8.571E-05	1.004E-04	8.571E-05
14 - 15	6.697E-03	0.00	9.628E-03	0.00	9.947E-03	0.00	1.309E-02	0.00	9.889E-03	0.00	9.634E-05	8.222E-05	9.634E-05	8.222E-05
15 - 16	5.102E-03	0.00	9.409E-03	0.00	9.704E-03	0.00	1.252E-02	0.00	9.805E-03	0.00	9.106E-05	7.772E-05	9.106E-05	7.772E-05
16 - 17	3.993E-03	0.00	9.281E-03	0.00	9.547E-03	0.00	1.308E-02	0.00	9.619E-03	0.00	8.827E-05	7.534E-05	8.827E-05	7.534E-05
17 - 18	4.268E-03	0.00	9.414E-03	0.00	9.565E-03	0.00	1.296E-02	0.00	9.399E-03	0.00	8.632E-05	7.368E-05	8.632E-05	7.368E-05
18 - 19	5.138E-03	0.00	9.522E-03	0.00	9.263E-03	0.00	1.294E-02	0.00	9.304E-03	0.00	7.803E-05	6.660E-05	7.803E-05	6.660E-05
19 - 20	6.045E-03	0.00	9.913E-03	0.00	9.028E-03	0.00	1.313E-02	0.00	8.966E-03	0.00	6.152E-05	5.251E-05	6.152E-05	5.251E-05
20 - 21	7.193E-03	0.00	1.018E-02	0.00	9.229E-03	0.00	1.281E-02	0.00	8.866E-03	0.00	4.488E-05	3.831E-05	4.488E-05	3.831E-05
21 - 22	8.441E-03	0.00	1.073E-02	0.00	9.240E-03	0.00	1.304E-02	0.00	8.580E-03	0.00	3.312E-05	2.827E-05	3.312E-05	2.827E-05
22 - 23	9.340E-03	0.00	1.109E-02	0.00	9.199E-03	0.00	1.303E-02	0.00	8.232E-03	0.00	2.512E-05	2.144E-05	2.512E-05	2.144E-05
23 - 24	1.004E-02	0.00	1.215E-02	0.00	9.126E-03	0.00	1.291E-02	0.00	8.364E-03	0.00	1.955E-05	1.669E-05	1.955E-05	1.669E-05
24 - 25	1.092E-02	0.00	1.208E-02	0.00	9.418E-03	0.00	1.365E-02	0.00	7.808E-03	0.00	1.596E-05	1.3[illegible]2E-05	1.596E-05	1.362E-05
25 - 30	1.292E-02	0.00	1.411E-02	0.00	9.023E-03	0.00	1.530E-02	0.00	8.154E-03	0.00	8.516E-06	7.268E-06	8.516E-06	7.268E-06
30 - 35	1.289E-02	0.00	1.415E-02	0.00	7.808E-03	0.00	2.051E-02	0.00	6.597E-03	0.00	2.431E-06	2.075E-06	2.431E-06	2.075E-06
35 - 40	1.182E-02	0.00	1.348E-02	0.00	7.521E-03	0.00	1.469E-02	0.00	5.855E-03	0.00	0.	0.	0.	0.
40 - 45	9.389E-03	0.00	1.112E-02	0.00	6.550E-03	0.00	1.230E-02	0.00	4.595E-03	0.00	0.	0.	0.	0.
45 - 50	6.327E-03	0.00	7.771E-03	0.00	4.687E-03	0.00	8.405E-03	0.00	3.362E-03	0.00	0.	0.	0.	0.
50 - 70	1.010E-03	0.00	1.198E-03	0.00	3.048E-04	0.00	1.222E-03	0.00	8.523E-04	0.00	0.	0.	0.	0.
70 -100	1.910E-05	0.00	2.174E-05	0.00	1.925E-04	0.00	2.206E-05	0.00	2.119E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.303500 MICROMETERS

FREQUENCY = 970.544 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.784E-01	0.00	3.572E-01	0.00	7.885E-02	0.00	1.995E-01	0.00	4.184E-02	0.00	5.571E-03	4.757E-03	[illegible]	[illegible]
0 - 1	4.297E-01	0.00	2.714E-01	0.00	6.989E-02	0.00	1.573E-01	0.00	4.248E-02	0.00	3.803E-03	3.246E-03	1.712E-02	1.461E-02
1 - 2	2.506E-01	0.00	1.603E-01	0.00	5.714E-02	0.00	1.046E-01	0.00	4.046E-02	0.00	1.659E-03	1.417E-03	5.506E-03	4.701E-03
2 - 3	1.407E-01	0.00	1.002E-01	0.00	4.825E-02	0.00	7.533E-02	0.00	3.576E-02	0.00	7.080E-04	6.044E-04	1.913E-03	1.633E-03
3 - 4	8.345E-02	0.00	7.030E-02	0.00	4.014E-02	0.00	5.810E-02	0.00	3.129E-02	0.00	3.288E-04	2.807E-04	8.355E-04	7.133E-04
4 - 5	6.073E-02	0.00	5.315E-02	0.00	3.312E-02	0.00	4.566E-02	0.00	2.566E-02	0.00	2.047E-04	1.748E-04	3.052E-04	2.605E-04
5 - 6	4.915E-02	0.00	4.448E-02	0.00	2.739E-02	0.00	3.760E-02	0.00	2.074E-02	0.00	1.495E-04	1.277E-04	1.495E-04	1.277E-04
6 - 7	4.000E-02	0.00	3.808E-02	0.00	2.285E-02	0.00	2.957E-02	0.00	1.659E-02	0.00	1.205E-04	1.029E-04	1.205E-04	1.029E-04
7 - 8	3.285E-02	0.00	3.123E-02	0.00	1.879E-02	0.00	2.409E-02	0.00	1.315E-02	0.00	1.179E-04	1.006E-04	1.179E-04	1.006E-04
8 - 9	2.759E-02	0.00	2.509E-02	0.00	1.559E-02	0.00	1.936E-02	0.00	1.099E-02	0.00	1.172E-04	1.000E-04	1.172E-04	1.000E-04
9 - 10	2.217E-02	0.00	2.100E-02	0.00	1.225E-02	0.00	1.526E-02	0.00	1.031E-02	0.00	1.133E-04	9.672E-05	1.133E-04	9.672E-05
10 - 11	1.804E-02	0.00	1.727E-02	0.00	1.124E-02	0.00	1.343E-02	0.00	1.031E-02	0.00	1.083E-04	9.247E-05	1.033E-04	9.247E-05
11 - 12	1.435E-02	0.00	1.391E-02	0.00	1.088E-02	0.00	1.382E-02	0.00	1.030E-02	0.00	1.074E-04	9.173E-05	1.074E-04	9.173E-05
12 - 13	1.179E-02	0.00	1.092E-02	0.00	1.076E-02	0.00	1.328E-02	0.00	1.010E-02	0.00	1.059E-04	9.035E-05	1.059E-04	9.035E-05
13 - 14	8.610E-03	0.00	9.654E-03	0.00	1.076E-02	0.00	1.383E-02	0.00	1.054E-02	0.00	1.006E-04	8.587E-05	1.006E-04	8.537E-05
14 - 15	6.983E-03	0.00	1.007E-02	0.00	1.039E-02	0.00	1.375E-02	0.00	1.028E-02	0.00	9.649E-05	8.238E-05	9.649E-05	8.239E-05
15 - 16	5.296E-03	0.00	9.833E-03	0.00	1.011E-02	0.00	1.313E-02	0.00	1.016E-02	0.00	9.121E-05	7.787E-05	9.121E-05	7.787E-05
16 - 17	4.129E-03	0.00	9.687E-03	0.00	9.924E-03	0.00	1.369E-02	0.00	9.928E-03	0.00	8.841E-05	7.548E-05	8.841E-05	7.548E-05
17 - 18	4.411E-03	0.00	9.808E-03	0.00	9.921E-03	0.00	1.355E-02	0.00	9.673E-03	0.00	8.646E-05	7.382E-05	8.646E-05	7.392E-05
18 - 19	5.314E-03	0.00	9.901E-03	0.00	9.582E-03	0.00	1.350E-02	0.00	9.555E-03	0.00	7.815E-05	6.673E-05	7.815E-05	6.673E-05
19 - 20	6.253E-03	0.00	1.030E-02	0.00	9.315E-03	0.00	1.369E-02	0.00	9.196E-03	0.00	6.162E-05	5.261E-05	6.152E-05	5.251E-05
20 - 21	7.446E-03	0.00	1.056E-02	0.00	9.519E-03	0.00	1.335E-02	0.00	9.097E-03	0.00	4.496E-05	3.838E-05	4.495E-05	3.838E-05
21 - 22	3.748E-03	0.00	1.11[illegible]E-02	0.00	9.530E-03	0.00	1.361E-02	0.00	8.809E-03	0.00	3.317E-05	2.832E-05	3.317E-05	2.832E-05
22 - 23	9.686E-03	0.00	1.153E-02	0.00	9.495E-03	0.00	1.360E-02	0.00	8.462E-03	0.00	2.516E-05	2.148E-05	2.516E-05	2.148E-05
23 - 24	1.042E-02	0.00	1.266E-02	0.00	9.436E-03	0.00	1.350E-02	0.00	8.622E-03	0.00	1.958E-05	1.672E-05	1.959E-05	1.672E-05
24 - 25	1.136E-02	0.00	1.260E-02	0.00	9.756E-03	0.00	1.430E-02	0.00	8.063E-03	0.00	1.598E-05	1.365E-05	1.599E-05	1.365E-05
25 - 30	1.354E-02	0.00	1.482E-02	0.00	9.396E-03	0.00	1.611E-02	0.00	8.487E-03	0.00	8.529E-06	7.282E-05	8.529E-06	7.282E-06
30 - 35	1.363E-02	0.00	1.498E-02	0.00	8.192E-03	0.00	2.176E-02	0.00	6.910E-03	0.00	2.435E-06	2.079E-05	2.435E-06	2.079E-06
35 - 40	1.257E-02	0.00	1.436E-02	0.00	7.953E-03	0.00	1.567E-02	0.00	6.171E-03	0.00	0.	0.	0.	0.
40 - 45	1.003E-02	0.00	1.190E-02	0.00	6.976E-03	0.00	1.319E-02	0.00	4.873E-03	0.00	0.	0.	0.	0.
45 - 50	6.782E-03	0.00	8.346E-03	0.00	5.015E-03	0.00	9.035E-03	0.00	3.584E-03	0.00	0.	0.	0.	0.
50 - 70	1.073E-03	0.00	1.274E-03	0.00	3.243E-04	0.00	1.299E-03	0.00	9.083E-04	0.00	0.	0.	0.	0.
70 -100	1.999E-05	0.00	2.274E-05	0.00	2.021E-04	0.00	2.307E-05	0.00	2.233E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.288839 MICROMETERS

FREQUENCY = 971.927 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.564E-01	0.00	3.462E-01	0.00	7.956E-02	0.00	1.958E-01	0.00	4.270E-02	0.00	5.580E-03	4.766E-03	2.719E-02	2.322E-02
0 - 1	4.142E-01	0.00	2.637E-01	0.00	7.068E-02	0.00	1.550E-01	0.00	4.335E-02	0.00	3.809E-03	3.253E-03	1.714E-02	1.464E-02
1 - 2	2.435E-01	0.00	1.573E-01	0.00	5.804E-02	0.00	1.043E-01	0.00	4.130E-02	0.00	1.662E-03	1.419E-03	5.515E-03	4.710E-03
2 - 3	1.385E-01	0.00	9.999E-02	0.00	4.919E-02	0.00	7.588E-02	0.00	3.651E-02	0.00	7.091E-04	6.056E-04	1.915E-03	1.535E-03
3 - 4	8.398E-02	0.00	7.121E-02	0.00	4.102E-02	0.00	5.902E-02	0.00	3.193E-02	0.00	3.293E-04	2.812E-04	8.358E-04	7.147E-04
4 - 5	6.185E-02	0.00	5.429E-02	0.00	3.384E-02	0.00	4.661E-02	0.00	2.614E-02	0.00	2.050E-04	1.751E-04	3.055E-04	2.610E-04
5 - 6	5.028E-02	0.00	4.559E-02	0.00	2.795E-02	0.00	3.845E-02	0.00	2.107E-02	0.00	1.498E-04	1.279E-04	1.498E-04	1.279E-04
6 - 7	4.097E-02	0.00	3.902E-02	0.00	2.326E-02	0.00	3.020E-02	0.00	1.680E-02	0.00	1.207E-04	1.030E-04	1.207E-04	1.030E-04
7 - 8	3.361E-02	0.00	3.194E-02	0.00	1.907E-02	0.00	2.454E-02	0.00	1.327E-02	0.00	1.191E-04	1.008E-04	1.181E-04	1.008E-04
8 - 9	2.816E-02	0.00	2.560E-02	0.00	1.578E-02	0.00	1.966E-02	0.00	1.107E-02	0.00	1.173E-04	1.002E-04	1.173E-04	1.002E-04
9 - 10	2.256E-02	0.00	2.136E-02	0.00	1.237E-02	0.00	1.545E-02	0.00	1.038E-02	0.00	1.135E-04	9.690E-05	1.135E-04	9.590E-05
10 - 11	1.829E-02	0.00	1.751E-02	0.00	1.133E-02	0.00	1.358E-02	0.00	1.039E-02	0.00	1.085E-04	9.265E-05	1.085E-04	9.255E-05
11 - 12	1.449E-02	0.00	1.406E-02	0.00	1.098E-02	0.00	1.398E-02	0.00	1.040E-02	0.00	1.076E-04	9.190E-05	1.075E-04	9.190E-05
12 - 13	1.186E-02	0.00	1.100E-02	0.00	1.085E-02	0.00	1.344E-02	0.00	1.021E-02	0.00	1.060E-04	9.052E-05	1.050E-04	9.052E-05
13 - 14	8.626E-03	0.00	9.707E-03	0.00	1.085E-02	0.00	1.399E-02	0.00	1.065E-02	0.00	1.007E-04	8.603E-05	1.007E-04	8.603E-05
14 - 15	6.966E-03	0.00	1.013E-02	0.00	1.048E-02	0.00	1.392E-02	0.00	1.040E-02	0.00	9.664E-05	8.254E-05	9.654E-05	8.254E-05
15 - 16	5.258E-03	0.00	9.889E-03	0.00	1.019E-02	0.00	1.329E-02	0.00	1.027E-02	0.00	9.135E-05	7.802E-05	9.135E-05	7.802E-05
16 - 17	4.087E-03	0.00	9.743E-03	0.00	1.000E-02	0.00	1.386E-02	0.00	1.003E-02	0.00	8.855E-05	7.562E-05	8.855E-05	7.552E-05
17 - 18	4.370E-03	0.00	9.865E-03	0.00	9.992E-03	0.00	1.371E-02	0.00	9.763E-03	0.00	8.659E-05	7.395E-05	8.659E-05	7.395E-05
18 - 19	5.283E-03	0.00	9.954E-03	0.00	9.645E-03	0.00	1.366E-02	0.00	9.633E-03	0.00	7.828E-05	6.685E-05	7.828E-05	6.685E-05
19 - 20	6.236E-03	0.00	1.037E-02	0.00	9.373E-03	0.00	1.385E-02	0.00	9.258E-03	0.00	6.172E-05	5.271E-05	6.172E-05	5.271E-05
20 - 21	7.446E-03	0.00	1.064E-02	0.00	9.572E-03	0.00	1.350E-02	0.00	9.146E-03	0.00	4.503E-05	3.845E-05	4.503E-05	3.845E-05
21 - 22	8.771E-03	0.00	1.122E-02	0.00	9.579E-03	0.00	1.375E-02	0.00	8.847E-03	0.00	3.323E-05	2.838E-05	3.323E-05	2.838E-05
22 - 23	9.730E-03	0.00	1.162E-02	0.00	9.539E-03	0.00	1.374E-02	0.00	8.489E-03	0.00	2.520E-05	2.152E-05	2.520E-05	2.152E-05
23 - 24	1.048E-02	0.00	1.276E-02	0.00	9.474E-03	0.00	1.363E-02	0.00	8.640E-03	0.00	1.961E-05	1.675E-05	1.961E-05	1.675E-05
24 - 25	1.143E-02	0.00	1.271E-02	0.00	9.792E-03	0.00	1.445E-02	0.00	8.073E-03	0.00	1.601E-05	1.367E-05	1.601E-05	1.367E-05
25 - 30	1.368E-02	0.00	1.499E-02	0.00	9.431E-03	0.00	1.631E-02	0.00	8.502E-03	0.00	8.543E-06	7.296E-05	8.543E-06	7.296E-06
30 - 35	1.384E-02	0.00	1.522E-02	0.00	8.245E-03	0.00	2.214E-02	0.00	6.939E-03	0.00	2.439E-06	2.083E-05	2.439E-06	2.083E-06
35 - 40	1.283E-02	0.00	1.467E-02	0.00	8.060E-03	0.00	1.604E-02	0.00	6.229E-03	0.00	0.	0.	0.	0.
40 - 45	1.029E-02	0.00	1.223E-02	0.00	7.124E-03	0.00	1.357E-02	0.00	4.952E-03	0.00	0.	0.	0.	0.
45 - 50	6.978E-03	0.00	8.606E-03	0.00	5.147E-03	0.00	9.327E-03	0.00	3.663E-03	0.00	0.	0.	0.	0.
50 - 70	1.092E-03	0.00	1.299E-03	0.00	3.306E-04	0.00	1.324E-03	0.00	9.281E-04	0.00	0.	0.	0.	0.
70 -100	2.000E-05	0.00	2.274E-05	0.00	2.029E-04	0.00	2.305E-05	0.00	2.252E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.274483 MICROMETERS

FREQUENCY = 973.285 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.544E-01	0.00	3.461E-01	0.00	7.989E-02	0.00	1.964E-01	0.00	4.252E-02	0.00	5.589E-03	4.774E-03	2.723E-02	2.325E-02
0 - 1	4.134E-01	0.00	2.640E-01	0.00	7.090E-02	0.00	1.557E-01	0.00	4.316E-02	0.00	3.814E-03	3.259E-03	1.717E-02	1.457E-02
1 - 2	2.438E-01	0.00	1.578E-01	0.00	5.807E-02	0.00	1.047E-01	0.00	4.107E-02	0.00	1.664E-03	1.422E-03	5.523E-03	4.719E-03
2 - 3	1.390E-01	0.00	1.004E-01	0.00	4.906E-02	0.00	7.608E-02	0.00	3.621E-02	0.00	7.101E-04	6.067E-04	1.919E-03	1.639E-03
3 - 4	8.427E-02	0.00	7.137E-02	0.00	4.076E-02	0.00	5.901E-02	0.00	3.156E-02	0.00	3.298E-04	2.818E-04	8.331E-04	7.150E-04
4 - 5	6.189E-02	0.00	5.423E-02	0.00	3.348E-02	0.00	4.642E-02	0.00	2.573E-02	0.00	2.054E-04	1.754E-04	3.051E-04	2.515E-04
5 - 6	5.013E-02	0.00	4.537E-02	0.00	2.754E-02	0.00	3.813E-02	0.00	2.064E-02	0.00	1.500E-04	1.281E-04	1.500E-04	1.281E-04
6 - 7	4.068E-02	0.00	3.869E-02	0.00	2.282E-02	0.00	2.981E-02	0.00	1.638E-02	0.00	1.208E-04	1.032E-04	1.208E-04	1.032E-04
7 - 8	3.323E-02	0.00	3.154E-02	0.00	1.864E-02	0.00	2.411E-02	0.00	1.287E-02	0.00	1.182E-04	1.010E-04	1.182E-04	1.010E-04
8 - 9	2.773E-02	0.00	2.518E-02	0.00	1.536E-02	0.00	1.922E-02	0.00	1.069E-02	0.00	1.175E-04	1.004E-04	1.175E-04	1.004E-04
9 - 10	2.212E-02	0.00	2.092E-02	0.00	1.198E-02	0.00	1.503E-02	0.00	1.000E-02	0.00	1.136E-04	9.708E-05	1.136E-04	9.708E-05
10 - 11	1.785E-02	0.00	1.707E-02	0.00	1.094E-02	0.00	1.317E-02	0.00	1.000E-02	0.00	1.086E-04	9.282E-05	1.086E-04	9.282E-05
11 - 12	1.409E-02	0.00	1.364E-02	0.00	1.059E-02	0.09	1.355E-02	0.00	1.000E-02	0.00	1.078E-04	9.207E-05	1.078E-04	9.207E-05
12 - 13	1.147E-02	0.00	1.062E-02	0.00	1.046E-02	0.00	1.303E-02	0.00	9.814E-03	0.00	1.061E-04	9.068E-05	1.061E-04	9.068E-05
13 - 14	8.300E-03	0.00	9.346E-03	0.00	1.045E-02	0.00	1.356E-02	0.00	1.023E-02	0.00	1.009E-04	8.619E-05	1.009E-04	8.619E-05
14 - 15	6.667E-03	0.00	9.753E-03	0.00	1.008E-02	0.00	1.349E-02	0.00	9.990E-03	0.00	9.679E-05	8.269E-05	9.679E-05	8.269E-05
15 - 16	5.004E-03	0.00	9.520E-03	0.00	9.810E-03	0.00	1.288E-02	0.00	9.865E-03	0.00	9.149E-05	7.816E-05	9.149E-05	7.816E-05
16 - 17	3.873E-03	0.00	9.379E-03	0.00	9.622E-03	0.00	1.343E-02	0.00	9.634E-03	0.00	8.868E-05	7.576E-05	8.868E-05	7.575E-05
17 - 18	4.144E-03	0.00	9.497E-03	0.00	9.611E-03	0.00	1.329E-02	0.00	9.377E-03	0.00	8.673E-05	7.409E-05	8.673E-05	7.409E-05
18 - 19	5.027E-03	0.00	9.596E-03	0.00	9.276E-03	0.00	1.324E-02	0.00	9.252E-03	0.00	7.839E-05	6.697E-05	7.839E-05	6.697E-05
19 - 20	5.954E-03	0.00	9.993E-03	0.00	9.014E-03	0.00	1.343E-02	0.00	8.893E-03	0.00	6.181E-05	5.280E-05	6.181E-05	5.280E-05
20 - 21	7.134E-03	0.00	1.026E-02	0.00	9.209E-03	0.00	1.309E-02	0.00	8.786E-03	0.00	4.509E-05	3.852E-05	4.509E-05	3.852E-05
21 - 22	8.432E-03	0.00	1.084E-02	0.00	9.219E-03	0.00	1.334E-02	0.00	8.499E-03	0.00	3.328E-05	2.843E-05	3.328E-05	2.843E-05
22 - 23	9.376E-03	0.00	1.124E-02	0.00	9.183E-03	0.00	1.333E-02	0.00	8.154E-03	0.00	2.524E-05	2.156E-05	2.524E-05	2.156E-05
23 - 24	1.012E-02	0.00	1.236E-02	0.00	9.123E-03	0.00	1.323E-02	0.00	8.299E-03	0.00	1.964E-05	1.678E-05	1.964E-05	1.678E-05
24 - 25	1.105E-02	0.00	1.232E-02	0.00	9.431E-03	0.00	1.404E-02	0.00	7.753E-03	0.00	1.603E-05	1.370E-05	1.603E-05	1.370E-05
25 - 30	1.329E-02	0.00	1.459E-02	0.00	9.095E-03	0.00	1.590E-02	0.00	8.182E-03	0.00	8.556E-06	7.309E-06	8.556E-06	7.309E-06
30 - 35	1.353E-02	0.00	1.491E-02	0.00	7.985E-03	0.00	2.171E-02	0.00	5.704E-03	0.00	2.443E-06	2.087E-06	2.443E-06	2.087E-06
35 - 40	1.263E-02	0.00	1.447E-02	0.00	7.871E-03	0.00	1.584E-02	0.00	6.055E-03	0.00	0.	0.	0.	0.
40 - 45	1.019E-02	0.00	1.213E-02	0.00	7.018E-03	0.00	1.349E-02	0.00	4.851E-03	0.00	0.	0.	0.	0.
45 - 50	6.934E-03	0.00	8.575E-03	0.00	5.101E-03	0.00	9.303E-03	0.00	3.613E-03	0.00	0.	0.	0.	0.
50 - 70	1.072E-03	0.00	1.277E-03	0.00	3.252E-04	0.00	1.301E-03	0.00	9.151E-04	0.00	0.	0.	0.	0.
70 -100	1.924E-05	0.00	2.187E-05	0.00	1.961E-04	0.00	2.216E-05	0.00	2.188E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.260430 MICROMETERS

FREQUENCY = 974.518 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.217E-01	0.00	3.247E-01	0.00	7.551E-02	0.00	1.841E-01	0.00	4.050E-02	0.00	5.597E-03	4.783E-03	2.727E-02	2.331E-02
0 - 1	3.890E-01	0.00	2.477E-01	0.00	6.720E-02	0.00	1.462E-01	0.00	4.114E-02	0.00	3.820E-03	3.264E-03	1.720E-02	1.469E-02
1 - 2	2.298E-01	0.00	1.486E-01	0.00	5.530E-02	0.00	9.902E-02	0.00	3.919E-02	0.00	1.667E-03	1.424E-03	5.531E-03	4.727E-03
2 - 3	1.314E-01	0.00	9.524E-02	0.00	4.688E-02	0.00	7.239E-02	0.00	3.459E-02	0.00	7.112E-04	6.078E-04	1.921E-03	1.642E-03
3 - 4	8.037E-02	0.00	6.825E-02	0.00	3.903E-02	0.00	5.643E-02	0.00	3.013E-02	0.00	3.303E-04	2.823E-04	8.393E-04	7.173E-04
4 - 5	5.938E-02	0.00	5.211E-02	0.00	3.203E-02	0.00	4.451E-02	0.00	2.452E-02	0.00	2.057E-04	1.758E-04	3.056E-04	2.620E-04
5 - 6	4.817E-02	0.00	4.365E-02	0.00	2.630E-02	0.00	3.657E-02	0.00	1.959E-02	0.00	1.502E-04	1.284E-04	1.502E-04	1.284E-04
6 - 7	3.908E-02	0.00	3.719E-02	0.00	2.175E-02	0.00	2.854E-02	0.00	1.549E-02	0.00	1.210E-04	1.034E-04	1.210E-04	1.034E-04
7 - 8	3.184E-02	0.00	3.[illegible]26E-02	0.00	1.770E-02	0.00	2.301E-02	0.00	1.214E-02	0.00	1.184E-04	1.012E-04	1.184E-04	1.012E-04
8 - 9	2.648E-02	0.00	2.409E-02	0.00	1.456E-02	0.00	1.[illegible]29E-02	0.00	1.007E-02	0.00	1.177E-04	1.006E-04	1.177E-04	1.006E-04
9 - 10	2.105E-02	0.00	1.994E-02	0.00	1.134E-02	0.00	1.[illegible]26E-02	0.00	9.461E-03	0.00	1.138E-04	9.725E-05	1.138E-04	9.725E-05
10 - 11	1.691E-02	0.00	1.622E-02	0.00	1.036E-02	0.00	1.250E-02	0.00	9.534E-03	0.00	1.088E-04	9.298E-05	1.088E-04	9.298E-05
11 - 12	1.328E-02	0.00	1.292E-02	0.00	1.007E-02	0.00	1.291E-02	0.00	9.610E-03	0.00	1.079E-04	9.224E-05	1.079E-04	9.224E-05
12 - 13	1.076E-02	0.00	1.003E-02	0.00	9.985E-03	0.00	1.246E-02	0.00	9.489E-03	0.00	1.063E-04	9.084E-05	1.063E-04	9.084E-05
13 - 14	7.744E-03	0.00	8.824E-03	0.00	9.991E-03	0.00	1.299E-02	0.00	9.904E-03	0.00	1.010E-04	8.635E-05	1.010E-04	8.635E-05
14 - 15	6.185E-03	0.00	9.216E-03	0.00	9.648E-03	0.00	1.295E-02	0.00	9.688E-03	0.00	9.693E-05	8.284E-05	9.693E-05	8.284E-05
15 - 16	4.614E-03	0.00	9.006E-03	0.00	9.387E-03	0.00	1.239E-02	0.00	9.587E-03	0.00	9.163E-05	7.830E-05	9.163E-05	7.830E-05
16 - 17	3.557E-03	0.00	8.880E-03	0.00	9.200E-03	0.00	1.292E-02	0.00	9.349E-03	0.00	8.881E-05	7.590E-05	8.881E-05	7.590E-05
17 - 18	3.815E-03	0.00	8.999E-03	0.00	9.175E-03	0.00	1.279E-02	0.00	9.064E-03	0.00	8.686E-05	7.422E-05	8.686E-05	7.422E-05
18 - 19	4.653E-03	0.00	9.107E-03	0.00	8.844E-03	0.00	1.272E-02	0.00	8.897E-03	0.00	7.851E-05	6.709E-05	7.851E-05	6.709E-05
19 - 20	5.543E-03	0.00	9.490E-03	0.00	8.584E-03	0.00	1.286E-02	0.00	8.507E-03	0.00	6.190E-05	5.290E-05	6.190E-05	5.290E-05
20 - 21	6.673E-03	0.00	9.746E-03	0.00	8.742E-03	0.00	1.250E-02	0.00	8.356E-03	0.00	4.515E-05	3.859E-05	4.515E-05	3.859E-05
21 - 22	7.917E-03	0.00	1.028E-02	0.00	8.726E-03	0.00	1.269E-02	0.00	8.045E-03	0.00	3.333E-05	2.848E-05	3.333E-05	2.848E-05
22 - 23	8.828E-03	0.00	1.065E-02	0.00	8.668E-03	0.00	1.265E-02	0.00	7.687E-03	0.00	2.528E-05	2.160E-05	2.528E-05	2.160E-05
23 - 24	9.538F-03	0.00	1.170E-02	0.00	8.588E-03	0.00	1.254E-02	0.00	7.789E-03	0.00	1.967E-05	1.681E-05	1.967E-05	1.681E-05
24 - 25	1.042E-02	0.00	1.165E-02	0.00	8.857E-03	0.00	1.329E-02	0.00	7.255E-03	0.00	1.606E-05	1.372E-05	1.606E-05	1.372E-05
25 - 30	1.255E-02	0.00	1.379E-02	0.00	8.514E-03	0.00	1.505E-02	0.00	7.635E-03	0.00	8.569E-06	7.322E-06	8.569E-06	7.322E-06
30 - 35	1.283E-02	0.00	1.415E-02	0.00	7.486E-03	0.00	2.063E-02	0.00	6.265E-03	0.00	2.446E-06	2.091E-06	2.446E-06	2.091E-06
35 - 40	1.204E-02	0.00	1.382E-02	0.00	7.439E-03	0.00	1.516E-02	0.00	5.694E-03	0.00	0.	0.	0.	0.
40 - 45	9.772E-03	0.00	1.167E-02	0.00	6.698E-03	0.00	1.301E-02	0.00	4.599E-03	0.00	0.	0.	0.	0.
45 - 50	6.681E-03	0.00	8.287E-03	0.00	4.900E-03	0.00	9.002E-03	0.00	3.453E-03	0.00	0.	0.	0.	0.
50 - 70	1.019E-03	0.00	1.215E-03	0.00	3.098E-04	0.00	1.238E-03	0.00	8.739E-04	0.00	0.	0.	0.	0.
70 -100	1.788E-05	0.00	2.031E-05	0.00	1.831E-04	0.00	2.056E-05	0.00	2.054E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.246668 MICROMETERS

FREQUENCY = 975.927 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	k_m(km^{-1})	σ_m(km^{-1})	k_m(km^{-1})	σ_m(km^{-1})	k_m(km^{-1})	σ_m(km^{-1})	k_m(km^{-1})	σ_m(km^{-1})	k_m(km^{-1})	σ_m(km^{-1})	k_a(km^{-1})	σ_a(km^{-1})	k_a(km^{-1})	σ_a(km^{-1})
0	1.944E+00	0.00	1.243E+00	0.00	2.140E-01	0.00	6.964E-01	0.00	7.403E-02	0.00	5.605E-03	4.791E-03	2.731E-02	2.335E-02
0 - 1	1.559E+00	0.00	1.012E+00	0.00	1.871E-01	0.00	5.659E-01	0.00	7.775E-02	0.00	3.825E-03	3.270E-03	1.722E-02	1.472E-02
1 - 2	1.034E+00	0.00	6.539E-01	0.00	1.448E-01	0.00	3.812E-01	0.00	7.555E-02	0.00	1.669E-03	1.427E-03	5.539E-03	4.735E-03
2 - 3	6.247E-01	0.00	3.958E-01	0.00	1.120E-01	0.00	2.603E-01	0.00	6.346E-02	0.00	7.123E-04	6.088E-04	1.924E-03	1.545E-03
3 - 4	3.216E-01	0.00	2.366E-01	0.00	7.964E-02	0.00	1.766E-01	0.00	5.015E-02	0.00	3.308E-04	2.828E-04	8.406E-04	7.185E-04
4 - 5	1.882E-01	0.00	1.439E-01	0.00	5.485E-02	0.00	1.173E-01	0.00	3.571E-02	0.00	2.060E-04	1.761E-04	3.070E-04	2.524E-04
5 - 6	1.263E-01	0.00	9.506E-02	0.00	3.935E-02	0.00	7.672E-02	0.00	2.532E-02	0.00	1.504E-04	1.286E-04	1.504E-04	1.285E-04
6 - 7	8.194E-02	0.00	6.831E-02	0.00	2.852E-02	0.00	4.943E-02	0.00	1.864E-02	0.00	1.212E-04	1.036E-04	1.212E-04	1.035E-04
7 - 8	5.468E-02	0.00	4.832E-02	0.00	2.106E-02	0.00	3.333E-02	0.00	1.369E-02	0.00	1.185E-04	1.014E-04	1.136E-04	1.014E-04
8 - 9	3.836E-02	0.00	3.434E-02	0.00	1.646E-02	0.00	2.277E-02	0.00	1.099E-02	0.00	1.179E-04	1.008E-04	1.179E-04	1.008E-04
9 - 10	2.686E-02	0.00	2.579E-02	0.00	1.247E-02	0.00	1.626E-02	0.00	1.024E-02	0.00	1.140E-04	9.742E-05	1.140E-04	9.742E-05
10 - 11	1.972E-02	0.00	1.921E-02	0.00	1.127E-02	0.00	1.383E-02	0.00	1.024E-02	0.00	1.090E-04	9.315E-05	1.090E-04	9.315E-05
11 - 12	1.478E-02	0.00	1.437E-02	0.00	1.092E-02	0.00	1.414E-02	0.00	1.024E-02	0.00	1.081E-04	9.240E-05	1.031E-04	9.240E-05
12 - 13	1.170E-02	0.00	1.084E-02	0.00	1.072E-02	0.00	1.348E-02	0.00	1.005E-02	0.00	1.065E-04	9.100E-05	1.056E-04	9.100E-05
13 - 14	8.318E-03	0.00	9.443E-03	0.00	1.065E-02	0.00	1.395E-02	0.00	1.047E-02	0.00	1.012E-04	8.650E-05	1.012E-04	8.650E-05
14 - 15	6.591E-03	0.00	9.845E-03	0.00	1.026E-02	0.00	1.388E-02	0.00	1.022E-02	0.00	9.708E-05	8.298E-05	9.708E-05	8.299E-05
15 - 16	4.882E-03	0.00	9.614E-03	0.00	9.973E-03	0.00	1.326E-02	0.00	1.010E-02	0.00	9.176E-05	7.844E-05	9.175E-05	7.844E-05
16 - 17	3.744E-03	0.00	9.479E-03	0.00	9.779E-03	0.00	1.384E-02	0.00	9.861E-03	0.00	8.894E-05	7.603E-05	8.894E-05	7.503E-05
17 - 18	4.018E-03	0.00	9.607E-03	0.00	9.762E-03	0.00	1.371E-02	0.00	9.586E-03	0.00	8.698E-05	7.436E-05	8.699E-05	7.435E-05
18 - 19	4.921E-03	0.00	9.730E-03	0.00	9.422E-03	0.00	1.367E-02	0.00	9.443E-03	0.00	7.863E-05	6.721E-05	7.850E-05	6.721E-05
19 - 20	5.887E-03	0.00	1.016E-02	0.00	9.162E-03	0.00	1.386E-02	0.00	9.059E-03	0.00	5.199E-05	5.299E-05	5.199E-05	5.299E-05
20 - 21	7.122E-03	0.00	1.047E-02	0.00	9.359E-03	0.00	1.351E-02	0.00	8.930E-03	0.00	4.523E-05	3.866E-05	4.523E-05	3.856E-05
21 - 22	8.498E-03	0.00	1.108E-02	0.00	9.371E-03	0.00	1.375E-02	0.00	8.625E-03	0.00	3.337E-05	2.853E-05	3.337E-05	2.853E-05
22 - 23	9.519E-03	0.00	1.152E-02	0.00	9.333E-03	0.00	1.374E-02	0.00	8.261E-03	0.00	2.532E-05	2.164E-05	2.532E-05	2.154E-05
23 - 24	1.033E-02	0.00	1.271E-02	0.00	9.275E-03	0.00	1.366E-02	0.00	8.390E-03	0.00	1.970E-05	1.684E-05	1.970E-05	1.594E-05
24 - 25	1.134E-02	0.00	1.271E-02	0.00	9.592E-03	0.00	1.455E-02	0.00	7.839E-03	0.00	1.508E-05	1.375E-05	1.609E-05	1.375E-05
25 - 30	1.375E-02	0.00	1.514E-02	0.00	9.246E-03	0.00	1.656E-02	0.00	8.273E-03	0.00	8.581E-06	7.335E-06	8.531E-06	7.335E-06
30 - 35	1.308E-02	0.00	1.450E-02	0.00	7.521E-03	0.00	2.274E-02	0.00	6.253E-03	0.00	2.450E-06	2.094E-06	2.450E-06	2.094E-06
35 - 40	1.186E-02	0.00	1.368E-02	0.00	7.225E-03	0.00	1.504E-02	0.00	5.483E-03	0.00	0.	0.	0.	0.
40 - 45	9.436E-03	0.00	1.132E-02	0.00	6.407E-03	0.00	1.266E-02	0.00	4.361E-03	0.00	0.	0.	0.	0.
45 - 50	6.384E-03	0.00	7.953E-03	0.00	4.656E-03	0.00	8.655E-03	0.00	3.258E-03	0.00	0.	0.	0.	0.
50 - 70	9.477E-04	0.00	1.135E-03	0.00	2.898E-04	0.00	1.154E-03	0.00	8.163E-04	0.00	0.	0.	0.	0.
70 -100	1.609E-05	0.00	1.827E-05	0.00	1.656E-04	0.00	1.847E-05	0.00	1.872E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.233215 MICROMETERS

FREQUENCY = 977.210 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	5.738E-01	0.00	4.239E-01	0.00	8.713E-02	0.00	2.383E-01	0.00	3.979E-02	0.00	5.513E-03	4.800E-03	2.735E-02	2.339E-02
0 - 1	5.023E-01	0.00	3.211E-01	0.00	7.501E-02	0.00	1.849E-01	0.00	4.020E-02	0.00	3.831E-03	3.276E-03	1.725E-02	1.475E-02
1 - 2	2.917E-01	0.00	1.852E-01	0.00	5.767E-02	0.00	1.174E-01	0.00	3.736E-02	0.00	1.672E-03	1.429E-03	5.547E-03	4.743E-03
2 - 3	1.589E-01	0.00	1.093E-01	0.00	4.593E-02	0.00	7.952E-02	0.00	3.177E-02	0.00	7.133E-04	6.099E-04	1.927E-03	1.549E-03
3 - 4	9.678E-02	0.00	7.091E-02	0.00	3.599E-02	0.00	5.713E-02	0.00	2.665E-02	0.00	3.313E-04	2.833E-04	8.419E-04	7.199E-04
4 - 5	5.852E-02	0.00	4.993E-02	0.00	2.818E-02	0.00	4.213E-02	0.00	2.094E-02	0.00	2.063E-04	1.764E-04	3.075E-04	2.629E-04
5 - 6	4.481E-02	0.00	3.950E-02	0.00	2.245E-02	0.00	3.270E-02	0.00	1.630E-02	0.00	1.507E-04	1.288E-04	1.507E-04	1.289E-04
6 - 7	3.472E-02	0.00	3.254E-02	0.00	1.813E-02	0.00	2.460E-02	0.00	1.265E-02	0.00	1.214E-04	1.038E-04	1.214E-04	1.038E-04
7 - 8	2.740E-02	0.00	2.594E-02	0.00	1.452E-02	0.00	1.930E-02	0.00	9.752E-03	0.00	1.189E-04	1.015E-04	1.188E-04	1.015E-04
8 - 9	2.229E-02	0.00	2.020E-02	0.00	1.178E-02	0.00	1.503E-02	0.00	8.004E-03	0.00	1.180E-04	1.009E-04	1.180E-04	1.009E-04
9 - 10	1.763E-02	0.00	1.647E-02	0.00	9.077E-03	0.00	1.154E-02	0.00	7.505E-03	0.00	1.141E-04	9.759E-05	1.141E-04	9.759E-05
10 - 11	1.380E-02	0.00	1.321E-02	0.00	8.255E-03	0.00	1.005E-02	0.00	7.577E-03	0.00	1.091E-04	9.331E-05	1.091E-04	9.331E-05
11 - 12	1.071E-02	0.00	1.039E-02	0.00	8.027E-03	0.00	1.038E-02	0.00	7.560E-03	0.00	1.092E-04	9.256E-05	1.092E-04	9.256E-05
12 - 13	8.579E-03	0.00	7.982E-03	0.00	7.966E-03	0.00	1.002E-02	0.00	7.595E-03	0.00	1.066E-04	9.116E-05	1.066E-04	9.116E-05
13 - 14	6.093E-03	0.00	6.998E-03	0.00	7.986E-03	0.00	1.047E-02	0.00	7.958E-03	0.00	1.013E-04	8.665E-05	1.013E-04	8.665E-05
14 - 15	4.807E-03	0.00	7.323E-03	0.00	7.733E-03	0.00	1.045E-02	0.00	7.830E-03	0.00	9.721E-05	8.313E-05	9.721E-05	8.313E-05
15 - 16	3.542E-03	0.00	7.174E-03	0.00	7.550E-03	0.00	1.004E-02	0.00	7.809E-03	0.00	9.189E-05	7.859E-05	9.189E-05	7.859E-05
16 - 17	2.714E-03	0.00	7.096E-03	0.00	7.429E-03	0.00	1.049E-02	0.00	7.669E-03	0.00	8.907E-05	7.616E-05	8.907E-05	7.616E-05
17 - 18	2.930E-03	0.00	7.221E-03	0.00	7.439E-03	0.00	1.043E-02	0.00	7.475E-03	0.00	8.711E-05	7.449E-05	8.711E-05	7.449E-05
18 - 19	3.622E-03	0.00	7.351E-03	0.00	7.205E-03	0.00	1.041E-02	0.00	7.361E-03	0.00	7.874E-05	6.733E-05	7.874E-05	6.733E-05
19 - 20	4.375E-03	0.00	7.701E-03	0.00	7.027E-03	0.00	1.054E-02	0.00	7.045E-03	0.00	6.208E-05	5.308E-05	6.208E-05	5.308E-05
20 - 21	5.324E-03	0.00	7.942E-03	0.00	7.161E-03	0.00	1.025E-02	0.00	6.901E-03	0.00	4.529E-05	3.873E-05	4.529E-05	3.873E-05
21 - 22	6.372E-03	0.00	8.394E-03	0.00	7.142E-03	0.00	1.039E-02	0.00	6.61[illegible]-03	0.00	3.342E-05	2.858E-05	3.342E-05	2.858E-05
22 - 23	7.150E-03	0.00	8.703E-03	0.00	7.076E-03	0.00	1.034E-02	0.00	6.293[illegible]03	0.00	2.535E-05	2.168E-05	2.535E-05	2.168E-05
23 - 24	7.750E-03	0.00	9.542E-03	0.00	6.982E-03	0.00	1.024E-02	0.00	6.319E-[illegible]	0.00	1.973E-05	1.687E-05	1.973E-05	1.687E-05
24 - 25	8.476E-03	0.00	9.496E-03	0.00	7.167E-03	0.00	1.086E-02	0.00	5.849E-03	0.00	1.610E-05	1.377E-05	1.610E-05	1.377E-05
25 - 30	1.022E-02	0.00	1.126E-02	0.00	6.829E-03	0.00	1.231E-02	0.00	6.084E-03	0.00	8.593E-06	7.348E-06	8.593E-06	7.348E-06
30 - 35	1.055E-02	0.00	1.167E-02	0.00	6.007E-03	0.00	1.705E-02	0.00	4.993E-03	0.00	2.454E-06	2.098E-06	2.454E-06	2.098E-06
35 - 40	1.004E-02	0.00	1.158E-02	0.00	6.078E-03	0.00	1.275E-02	0.00	4.598E-03	0.00	0.	0.	0.	0.
40 - 45	8.269E-03	0.00	9.935E-03	0.00	5.598E-03	0.00	1.113E-02	0.00	3.786E-03	0.00	0.	0.	0.	0.
45 - 50	5.712E-03	0.00	7.134E-03	0.00	4.159E-03	0.00	7.774E-03	0.00	2.695E-03	0.00	0.	0.	0.	0.
50 - 70	8.430E-04	0.00	1.009E-03	0.00	2.578E-04	0.00	1.028E-03	0.00	7.319E-04	0.00	0.	0.	0.	0.
70 -100	1.403E-05	0.00	1.593E-05	0.00	1.454E-04	0.00	1.609E-05	0.00	1.654E-05	0.00	0.	0.	0.	0.

WAVELENGTH = .0.220058 MICROMETERS

FREQUENCY = 978.468 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.034E-01	0.00	3.085E-01	0.00	6.405E-02	0.00	1.696E-01	0.00	3.182E-02	0.00	5.621E-03	4.808E-03	2.739E-02	2.343E-02
0 - 1	3.720E-01	0.00	2.321E-01	0.00	5.614E-02	0.00	1.323E-01	0.00	3.228E-02	0.00	3.836E-03	3.281E-03	1.727E-02	1.477E-02
1 - 2	2.144E-01	0.00	1.341E-01	0.00	4.487E-02	0.00	8.621E-02	0.00	3.047E-02	0.00	1.674E-03	1.432E-03	5.555E-03	4.751E-03
2 - 3	1.172E-01	0.00	8.175E-02	0.00	3.707E-02	0.00	6.064E-02	0.00	2.645E-02	0.00	7.143E-04	6.109E-04	1.930E-03	1.551E-03
3 - 4	6.712E-02	0.00	5.591E-02	0.00	3.006E-02	0.00	4.552E-02	0.00	2.260E-02	0.00	3.317E-04	2.837E-04	8.430E-04	7.210E-04
4 - 5	4.762E-02	0.00	4.124E-02	0.00	2.408E-02	0.00	3.483E-02	0.00	1.801E-02	0.00	2.066E-04	1.767E-04	3.079E-04	2.533E-04
5 - 6	3.764E-02	0.00	3.369E-02	0.00	1.940E-02	0.00	2.783E-02	0.00	1.408E-02	0.00	1.509E-04	1.290E-04	1.509E-04	1.290E-04
6 - 7	2.983E-02	0.00	2.617E-02	0.00	1.575E-02	0.00	2.123E-02	0.00	1.092E-02	0.00	1.215E-04	1.040E-04	1.215E-04	1.040E-04
7 - 8	2.380E-02	0.00	2.252E-02	0.00	1.261E-02	0.00	1.676E-02	0.00	8.400E-03	0.00	1.189E-04	1.017E-04	1.139E-04	1.017E-04
8 - 9	1.944E-02	0.00	1.764E-02	0.00	1.022E-02	0.00	1.307E-02	0.00	6.882E-03	0.00	1.182E-04	1.011E-04	1.132E-04	1.011E-04
9 - 10	1.519E-02	0.00	1.436E-02	0.00	7.854E-03	0.00	1.001E-02	0.00	6.483E-03	0.00	1.143E-04	9.776E-05	1.143E-04	9.775E-05
10 - 11	1.198E-02	0.00	1.149E-02	0.00	7.150E-03	0.00	8.728E-03	0.00	6.603E-03	0.00	1.093E-04	9.347E-05	1.093E-04	9.347E-05
11 - 12	9.247E-03	0.00	9.012F-03	0.00	6.994E-03	0.00	9.058E-03	0.00	6.753E-03	0.00	1.084E-04	9.272E-05	1.034E-04	9.272E-05
12 - 13	7.361E-03	0.00	6.899E-03	0.00	6.985E-03	0.00	8.807E-03	0.00	6.777E-03	0.00	1.068E-04	9.132E-05	1.058E-04	9.132E-05
13 - 14	5.193E-03	0.00	6.058E-03	0.00	7.044E-03	0.00	9.243E-03	0.00	7.157E-03	0.00	1.015E-04	8.679E-05	1.015E-04	8.679E-05
14 - 15	4.068E-03	0.00	6.364E-03	0.00	6.868E-03	0.00	9.298E-03	0.00	7.129E-03	0.00	9.735E-05	8.327E-05	9.735E-05	8.327E-05
15 - 16	2.976E-03	0.00	6.270E-03	0.00	6.757E-03	0.00	9.018E-03	0.00	7.220E-03	0.00	9.202E-05	7.871E-05	9.202E-05	7.871E-05
16 - 17	2.274E-03	0.00	6.243E-03	0.00	6.703E-03	0.00	9.499E-03	0.00	7.182E-03	0.00	8.920E-05	7.629E-05	8.920E-05	7.629E-05
17 - 18	2.470E-03	0.00	6.408E-03	0.00	6.766E-03	0.00	9.546E-03	0.00	7.066E-03	0.00	8.723E-05	7.461E-05	8.723E-05	7.451E-05
18 - 19	3.095E-03	0.00	6.607E-03	0.00	6.624E-03	0.00	9.607E-03	0.00	7.004E-03	0.00	7.885E-05	6.744E-05	7.885E-05	6.744E-05
19 - 20	3.808E-03	0.00	7.006E-03	0.00	6.542E-03	0.00	9.763E-03	0.00	6.737E-03	0.00	6.217E-05	5.317E-05	6.217E-05	5.317E-05
20 - 21	4.717E-03	0.00	7.311E-03	0.00	6.703E-03	0.00	9.535E-03	0.00	6.593E-03	0.00	4.536E-05	3.879E-05	4.536E-05	3.879E-05
21 - 22	5.749E-03	0.00	7.789E-03	0.00	6.717E-03	0.00	9.645E-03	0.00	6.320E-03	0.00	3.347E-05	2.863E-05	3.347E-05	2.863E-05
22 - 23	6.569E-03	0.00	8.124E-03	0.00	6.664E-03	0.00	9.575E-03	0.00	5.995E-03	0.00	2.539E-05	2.171E-05	2.539E-05	2.171E-05
23 - 24	7.217E-03	0.00	8.885E-03	0.00	6.556E-03	0.00	9.490E-03	0.00	5.940E-03	0.00	1.976E-05	1.690E-05	1.975E-05	1.690E-05
24 - 25	7.940E-03	0.00	8.856E-03	0.00	6.691E-03	0.00	1.004E-02	0.00	5.452E-03	0.00	1.613E-05	1.379E-05	1.613E-05	1.379E-05
25 - 30	9.507E-03	0.00	1.039E-02	0.00	6.250E-03	0.00	1.122E-02	0.00	5.495E-03	0.00	8.605E-06	7.360E-06	8.605E-06	7.350E-06
30 - 35	9.632E-03	0.00	1.063E-02	0.00	5.377E-03	0.00	1.520E-02	0.00	4.430E-03	0.00	2.457E-06	2.102E-06	2.457E-06	2.102E-06
35 - 40	8.980E-03	0.00	1.038E-02	0.00	5.373E-03	0.00	1.146E-02	0.00	4.034E-03	0.00	0.	0.	0.	0.
40 - 45	7.376E-03	0.00	8.893E-03	0.00	4.958E-03	0.00	9.995E-03	0.00	3.325E-03	0.00	0.	0.	0.	0.
45 - 50	5.101E-03	0.00	6.396E-03	0.00	3.700E-03	0.00	6.982E-03	0.00	2.557E-03	0.00	0.	0.	0.	0.
50 - 70	7.373E-04	0.00	8.846E-04	0.00	2.267E-04	0.00	9.002E-04	0.00	6.447E-04	0.00	0.	0.	0.	0.
70 - 100	1.190E-05	0.00	1.350E-05	0.00	1.241E-04	0.00	1.362E-05	0.00	1.423E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.207196 MICROMETERS

FREQUENCY = 979.701 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.835E-01	0.00	2.934E-01	0.00	5.789E-02	0.00	1.588E-01	0.00	2.800E-02	0.00	5.629E-03	4.816E-03	2.743E-02	2.347E-02
0 - 1	3.556E-01	0.00	2.193E-01	0.00	5.048E-02	0.00	1.229E-01	0.00	2.838E-02	0.00	3.842E-03	3.287E-03	1.729E-02	1.430E-02
1 - 2	2.026E-01	0.00	1.246E-01	0.00	3.994E-02	0.00	7.889E-02	0.00	2.670E-02	0.00	1.676E-03	1.434E-03	5.553E-03	4.759E-03
2 - 3	1.084E-01	0.00	7.435E-02	0.00	3.269E-02	0.00	5.469E-02	0.00	2.304E-02	0.00	7.153E-04	6.119E-04	1.932E-03	1.553E-03
3 - 4	6.041E-02	0.00	4.995E-02	0.00	2.626E-02	0.00	4.047E-02	0.00	1.956E-02	0.00	3.322E-04	2.842E-04	8.441E-04	7.222E-04
4 - 5	4.222E-02	0.00	3.638E-02	0.00	2.085E-02	0.00	3.061E-02	0.00	1.545E-02	0.00	2.068E-04	1.770E-04	3.033E-04	2.539E-04
5 - 6	3.305E-02	0.00	2.945E-02	0.00	1.668E-02	0.00	2.421E-02	0.00	1.198E-02	0.00	1.511E-04	1.293E-04	1.511E-04	1.293E-04
6 - 7	2.597E-02	0.00	2.446E-02	0.00	1.344E-02	0.00	1.831E-02	0.00	9.215E-03	0.00	1.217E-04	1.041E-04	1.217E-04	1.041E-04
7 - 8	2.056E-02	0.00	1.943E-02	0.00	1.069E-02	0.00	1.434E-02	0.00	7.036E-03	0.00	1.191E-04	1.019E-04	1.191E-04	1.019E-04
8 - 9	1.668E-02	0.00	1.512E-02	0.00	8.606E-03	0.00	1.109E-02	0.00	5.733E-03	0.00	1.184E-04	1.013E-04	1.134E-04	1.013E-04
9 - 10	1.294E-02	0.00	1.223E-02	0.00	6.577E-03	0.00	8.439E-03	0.00	5.397E-03	0.00	1.145E-04	9.792E-05	1.145E-04	9.792E-05
10 - 11	1.013E-02	0.00	9.717E-03	0.00	5.972E-03	0.00	7.333E-03	0.00	5.511E-03	0.00	1.094E-04	9.362E-05	1.094E-04	9.362E-05
11 - 12	7.765E-03	0.00	7.571E-03	0.00	5.849E-03	0.00	7.623E-03	0.00	5.655E-03	0.00	1.085E-04	9.287E-05	1.035E-04	9.287E-05
12 - 13	6.136E-03	0.00	5.756E-03	0.00	5.850E-03	0.00	7.430E-03	0.00	5.696E-03	0.00	1.069E-04	9.147E-05	1.059E-04	9.147E-05
13 - 14	4.292E-03	0.00	5.040E-03	0.00	5.907E-03	0.00	7.814E-03	0.00	6.029E-03	0.00	1.015E-04	8.694E-05	1.015E-04	8.594E-05
14 - 15	3.332E-03	0.00	5.301E-03	0.00	5.767E-03	0.00	7.881E-03	0.00	6.024E-03	0.00	9.748E-05	8.340E-05	9.748E-05	8.340E-05
15 - 16	2.414E-03	0.00	5.230E-03	0.00	5.678E-03	0.00	7.668E-03	0.00	6.115E-03	0.00	9.215E-05	7.884E-05	9.215E-05	7.884E-05
16 - 17	1.830E-03	0.00	5.214E-03	0.00	5.632E-03	0.00	8.089E-03	0.00	6.077E-03	0.00	8.932E-05	7.642E-05	8.932E-05	7.542E-05
17 - 18	1.989E-03	0.00	5.357E-03	0.00	5.677E-03	0.00	8.142E-03	0.00	5.958E-03	0.00	8.735E-05	7.473E-05	8.735E-05	7.473E-05
18 - 19	2.508E-03	0.00	5.531E-03	0.00	5.545E-03	0.00	8.187E-03	0.00	5.872E-03	0.00	7.896E-05	6.755E-05	7.895E-05	6.755E-05
19 - 20	3.105E-03	0.00	5.869E-03	0.00	5.457E-03	0.00	8.294E-03	0.00	5.605E-03	0.00	6.225E-05	5.326E-05	6.225E-05	5.326E-05
20 - 21	3.867E-03	0.00	6.120E-03	0.00	5.564E-03	0.00	8.068E-03	0.00	5.444E-03	0.00	4.542E-05	3.886E-05	4.542E-05	3.885E-05
21 - 22	4.735E-03	0.00	6.503E-03	0.00	5.544E-03	0.00	8.120E-03	0.00	5.178E-03	0.00	3.352E-05	2.867E-05	3.352E-05	2.857E-05
22 - 23	5.415E-03	0.00	6.767E-03	0.00	5.468E-03	0.00	8.022E-03	0.00	4.875E-03	0.00	2.542E-05	2.175E-05	2.542E-05	2.175E-05
23 - 24	5.938E-03	0.00	7.381E-03	0.00	5.352E-03	0.00	7.921E-03	0.00	4.806E-03	0.00	1.979E-05	[illegible]	1.979E-05	1.593E-05
24 - 25	6.520E-03	0.00	7.333E-03	0.00	5.441E-03	0.00	8.364E-03	0.00	4.392E-03	0.00	1.615E-05	[illegible]	1.615E-05	1.382E-05
25 - 30	7.822E-03	0.00	8.609E-03	0.00	5.071E-03	0.00	9.350E-03	0.00	4.448E-03	0.00	8.617E-06	7.373E-06	8.617E-06	7.373E-06
30 - 35	7.999E-03	0.00	8.865E-03	0.00	4.397E-03	0.00	1.284E-02	0.00	3.613E-03	0.00	2.460E-06	2.105E-05	2.450E-06	2.105E-06
35 - 40	7.612E-03	0.00	8.826E-03	0.00	4.495E-03	0.00	9.769E-03	0.00	3.351E-03	0.00	0.	0.	0.	0.
40 - 45	6.346E-03	0.00	7.681E-03	0.00	4.233E-03	0.00	8.660E-03	0.00	2.812E-03	0.00	0.	0.	0.	0.
45 - 50	4.429E-03	0.00	5.578E-03	0.00	3.198E-03	0.00	6.101E-03	0.00	2.193E-03	0.00	0.	0.	0.	0.
50 - 70	6.284E-04	0.00	7.557E-04	0.00	1.935E-04	0.00	7.687E-04	0.00	5.533E-04	0.00	0.	0.	0.	0.
70 - 100	9.819E-06	0.00	1.113E-05	0.00	1.032E-04	0.00	1.122E-05	0.00	1.192E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.194626 MICROMETERS

FREQUENCY = 980.909 WAVENUMBERS

HT(KM)	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	4.744E-01	0.00	2.855E-01	0.00	5.291E-02	0.00	1.520E-01	0.00	2.450E-02	0.00	5.536E-03	4.823E-03	2.746E-02	2.350E-02
0 - 1	3.472E-01	0.00	2.118E-01	0.00	4.572E-02	0.00	1.164E-01	0.00	2.480E-02	0.00	3.847E-03	3.292E-03	1.732E-02	1.482E-02
1 - 2	1.953E-01	0.00	1.178E-01	0.00	3.554E-02	0.00	7.31[illegible]E-02	0.00	2.319E-02	0.00	1.679E-03	1.437E-03	5.570E-03	4.757E-03
2 - 3	1.019E-01	0.00	6.824E-02	0.00	2.863E-02	0.00	4.958E-02	0.00	1.982E-02	0.00	7.162E-04	6.129E-04	1.935E-03	1.555E-03
3 - 4	5.447E-02	0.00	4.454E-02	0.00	2.263E-02	0.00	3.584E-02	0.00	1.663E-02	0.00	3.325E-04	2.847E-04	8.453E-04	7.234E-04
4 - 5	3.713E-02	0.00	3.175E-02	0.00	1.772E-02	0.00	2.662E-02	0.00	1.299E-02	0.00	2.071E-04	1.772E-04	3.037E-04	2.542E-04
5 - 6	2.863E-02	0.00	2.532E-02	0.00	1.403E-02	0.00	2.071E-02	0.00	9.965E-03	0.00	1.513E-04	1.295E-04	1.513E-04	1.295E-04
6 - 7	2.220E-02	0.00	2.081E-02	0.00	1.120E-02	0.00	1.547E-02	0.00	7.592E-03	0.00	1.219E-04	1.043E-04	1.219E-04	1.043E-04
7 - 8	1.738E-02	0.00	1.638E-02	0.00	8.834E-03	0.00	1.198E-02	0.00	5.745E-03	0.00	1.192E-04	1.021E-04	1.192E-04	1.021E-04
8 - 9	1.397E-02	0.00	1.264E-02	0.00	7.060E-03	0.00	9.176E-03	0.00	4.649E-03	0.00	1.185E-04	1.014E-04	1.185E-04	1.014E-04
9 - 10	1.075E-02	0.00	1.014E-02	0.00	5.353E-03	0.00	6.916E-03	0.00	4.363E-03	0.00	1.146E-04	9.808E-05	1.146E-04	9.808E-05
10 - 11	8.344E-03	0.00	7.989E-03	0.00	4.832E-03	0.00	5.975E-03	0.00	4.439E-03	0.00	1.096E-04	9.377E-05	1.095E-04	9.377E-05
11 - 12	6.344E-03	0.00	6.167E-03	0.00	4.711E-03	0.00	6.192E-03	0.00	4.523E-03	0.00	1.087E-04	9.302E-05	1.037E-04	9.302E-05
12 - 13	4.969E-03	0.00	4.641E-03	0.00	4.681E-03	0.00	6.006E-03	0.00	4.508E-03	0.00	1.071E-04	9.161E-05	1.071E-04	9.161E-05
13 - 14	3.441E-03	0.00	4.033E-03	0.00	4.689E-03	0.00	6.280E-03	0.00	4.720E-03	0.00	1.018E-04	8.708E-05	1.018E-04	8.708E-05
14 - 15	2.646E-03	0.00	4.222E-03	0.00	4.535E-03	0.00	6.285E-03	0.00	4.651E-03	0.00	9.762E-05	8.354E-05	9.752E-05	8.354E-05
15 - 16	1.896E-03	0.00	4.139E-03	0.00	4.421E-03	0.00	6.054E-03	0.00	4.643E-03	0.00	9.227E-05	7.897E-05	9.227E-05	7.897E-05
16 - 17	1.423E-03	0.00	4.098E-03	0.00	4.342E-03	0.00	6.336E-03	0.00	4.551E-03	0.00	8.944E-05	7.654E-05	8.944E-05	7.654E-05
17 - 18	1.542E-03	0.00	4.177E-03	0.00	4.342E-03	0.00	6.316E-03	0.00	4.425E-03	0.00	8.747E-05	7.485E-05	8.747E-05	7.485E-05
18 - 19	1.943E-03	0.00	4.275E-03	0.00	4.208E-03	0.00	6.318E-03	0.00	4.351E-03	0.00	7.906E-05	6.766E-05	7.905E-05	6.756E-05
19 - 20	2.398E-03	0.00	4.515E-03	0.00	4.121E-03	0.00	6.403E-03	0.00	4.167E-03	0.00	6.234E-05	5.335E-05	6.234E-05	5.335E-05
20 - 21	2.988E-03	0.00	4.701E-03	0.00	4.219E-03	0.00	6.246E-03	0.00	4.086E-03	0.00	4.548E-05	3.892E-05	4.548E-05	3.892E-05
21 - 22	3.671E-03	0.00	5.019E-03	0.00	4.238E-03	0.00	6.340E-03	0.00	3.935E-03	0.00	3.356E-05	2.872E-05	3.355E-05	2.872E-05
22 - 23	4.224E-03	0.00	5.272E-03	0.00	4.231E-03	0.00	6.323E-03	0.00	3.761E-03	0.00	2.546E-05	2.179E-05	2.546E-05	2.179E-05
23 - 24	4.679E-03	0.00	5.834E-03	0.00	4.202E-03	0.00	6.305E-03	0.00	3.776E-03	0.00	1.981E-05	1.695E-05	1.931E-05	1.695E-05
24 - 25	5.216E-03	0.00	5.870E-03	0.00	4.339E-03	0.00	6.743E-03	0.00	3.505E-03	0.00	1.617E-05	1.384E-05	1.617E-05	1.384E-05
25 - 30	6.530E-03	0.00	7.151E-03	0.00	4.189E-03	0.00	7.766E-03	0.00	3.670E-03	0.00	8.629E-06	7.385E-06	8.629E-06	7.385E-06
30 - 35	6.987E-03	0.00	7.634E-03	0.00	3.782E-03	0.00	1.091E-02	0.00	3.092E-03	0.00	2.464E-06	2.108E-06	2.464E-06	2.108E-06
35 - 40	6.673E-03	0.00	7.731E-03	0.00	3.916E-03	0.00	8.574E-03	0.00	2.908E-03	0.00	0.	0.	0.	0.
40 - 45	5.543E-03	0.00	6.719E-03	0.00	3.689E-03	0.00	7.597E-03	0.00	2.437E-03	0.00	0.	0.	0.	0.
45 - 50	3.843E-03	0.00	4.854E-03	0.00	2.773E-03	0.00	5.317E-03	0.00	1.892E-03	0.00	0.	0.	0.	0.
50 - 70	5.284E-04	0.00	6.365E-04	0.00	1.678E-04	0.00	6.469E-04	0.00	4.712E-04	0.00	0.	0.	0.	0.
70 -100	7.907E-06	0.00	8.956E-06	0.00	8.355E-05	0.00	9.012E-06	0.00	9.775E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.182356 MICROMETERS

FREQUENCY = 982.091 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	5.520E-01	0.00	3.364E-01	0.00	5.870E-02	0.00	1.800E-01	0.00	2.404E-02	0.00	5.644E-03	4.831E-03	2.750E-02	2.354E-02
0 - 1	4.114E-01	0.00	2.537E-01	0.00	5.039E-02	0.00	1.389E-01	0.00	2.445E-02	0.00	3.852E-03	3.297E-03	1.734E-02	1.484E-02
1 - 2	2.395E-01	0.00	1.444E-01	0.00	3.828E-02	0.00	8.753E-02	0.00	2.285E-02	0.00	1.681E-03	1.439E-03	5.573E-03	4.774E-03
2 - 3	1.275E-01	0.00	8.253E-02	0.00	2.981E-02	0.00	5.824E-02	0.00	1.915E-02	0.00	7.172E-04	6.139E-04	1.938E-03	1.659E-03
3 - 4	6.454E-02	0.00	5.078E-02	0.00	2.234E-02	0.00	4.017E-02	0.00	1.550E-02	0.00	3.331E-04	2.851E-04	8.454E-04	7.245E-04
4 - 5	4.081E-02	0.00	3.359E-02	0.00	1.652E-02	0.00	2.814E-02	0.00	1.157E-02	0.00	2.074E-04	1.775E-04	3.091E-04	2.646E-04
5 - 6	2.962E-02	0.00	2.485E-02	0.00	1.253E-02	0.00	2.032E-02	0.00	8.517E-03	0.00	1.515E-04	1.297E-04	1.515E-04	1.297E-04
6 - 7	2.143E-02	0.00	1.941E-02	0.00	9.593E-03	0.00	1.431E-02	0.00	6.318E-03	0.00	1.220E-04	1.045E-04	1.220E-04	1.045E-04
7 - 8	1.583E-02	0.00	1.467E-02	0.00	7.327E-03	0.00	1.049E-02	0.00	4.669E-03	0.00	1.194E-04	1.022E-04	1.194E-04	1.022E-04
8 - 9	1.213E-02	0.00	1.096E-02	0.00	5.753E-03	0.00	7.684E-03	0.00	3.733E-03	0.00	1.187E-04	1.016E-04	1.187E-04	1.015E-04
9 - 10	9.012E-03	0.00	8.538E-03	0.00	4.319E-03	0.00	5.639E-03	0.00	3.508E-03	0.00	1.148E-04	9.823E-05	1.148E-04	9.823E-05
10 - 11	6.811E-03	0.00	6.555E-03	0.00	3.880E-03	0.00	4.824E-03	0.00	3.573E-03	0.00	1.097E-04	9.392E-05	1.097E-04	9.392E-05
11 - 12	5.093E-03	0.00	4.964E-03	0.00	3.777E-03	0.00	4.980E-03	0.00	3.635E-03	0.00	1.088E-04	9.317E-05	1.088E-04	9.317E-05
12 - 13	3.942E-03	0.00	3.692E-03	0.00	3.734E-03	0.00	4.810E-03	0.00	3.603E-03	0.00	1.072E-04	9.176E-05	1.072E-04	9.175E-05
13 - 14	2.701E-03	0.00	3.191E-03	0.00	3.717E-03	0.00	5.003E-03	0.00	3.740E-03	0.00	1.019E-04	8.722E-05	1.019E-04	8.722E-05
14 - 15	2.057E-03	0.00	3.328E-03	0.00	3.572E-03	0.00	4.982E-03	0.00	3.649E-03	0.00	9.774E-05	8.367E-05	9.774E-05	8.367E-05
15 - 16	1.460E-03	0.00	3.250E-03	0.00	3.456E-03	0.00	4.768E-03	0.00	3.600E-03	0.00	9.239E-05	7.909E-05	9.239E-05	7.909E-05
16 - 17	1.089E-03	0.00	3.202E-03	0.00	3.367E-03	0.00	4.958E-03	0.00	3.483E-03	0.00	8.956E-05	7.666E-05	8.956E-05	7.656E-05
17 - 18	1.179E-03	0.00	3.243E-03	0.00	3.336E-03	0.00	4.901E-03	0.00	3.342E-03	0.00	8.758E-05	7.497E-05	8.758E-05	7.497E-05
18 - 19	1.487E-03	0.00	3.293E-03	0.00	3.197E-03	0.00	4.862E-03	0.00	3.244E-03	0.00	7.917E-05	6.777E-05	7.917E-05	6.777E-05
19 - 20	1.830E-03	0.00	3.448E-03	0.00	3.091E-03	0.00	4.896E-03	0.00	3.068E-03	0.00	6.242E-05	5.343E-05	6.242E-05	5.343E-05
20 - 21	2.268E-03	0.00	3.556E-03	0.00	3.133E-03	0.00	4.744E-03	0.00	2.980E-03	0.00	4.554E-05	3.898E-05	4.554E-05	3.899E-05
21 - 22	2.765E-03	0.00	3.766E-03	0.00	3.115E-03	0.00	4.800E-03	0.00	2.843E-03	0.00	3.360E-05	2.877E-05	3.350E-05	2.877E-05
22 - 23	3.144E-03	0.00	3.927E-03	0.00	3.082E-03	0.00	4.771E-03	0.00	2.593E-03	0.00	2.549E-05	2.182E-05	2.549E-05	2.182E-05
23 - 24	3.439E-03	0.00	4.341E-03	0.00	3.044E-03	0.00	4.736E-03	0.00	2.703E-03	0.00	1.984E-05	1.698E-05	1.934E-05	1.699E-05
24 - 25	3.802E-03	0.00	4.343E-03	0.00	3.130E-03	0.00	5.062E-03	0.00	2.499E-03	0.00	1.619E-05	1.386E-05	1.619E-05	1.385E-05
25 - 30	4.755E-03	0.00	5.307E-03	0.00	3.016E-03	0.00	5.876E-03	0.00	2.652E-03	0.00	8.640E-06	7.396E-06	8.640E-06	7.395E-06
30 - 35	5.169E-03	0.00	5.768E-03	0.00	2.749E-03	0.00	8.504E-03	0.00	2.246E-03	0.00	2.467E-06	2.112E-06	2.457E-06	2.112E-06
35 - 40	5.145E-03	0.00	6.002E-03	0.00	2.952E-03	0.00	6.684E-03	0.00	2.165E-03	0.00	0.	0.	0.	0.
40 - 45	4.412E-03	0.00	5.385E-03	0.00	2.892E-03	0.00	6.116E-03	0.00	1.881E-03	0.00	0.	0.	0.	0.
45 - 50	3.131E-03	0.00	3.982E-03	0.00	2.239E-03	0.00	4.373E-03	0.00	1.509E-03	0.00	0.	0.	0.	0.
50 - 70	4.249E-04	0.00	5.138E-04	0.00	1.318E-04	0.00	5.221E-04	0.00	3.804E-04	0.00	0.	0.	0.	0.
70 -100	6.172E-06	0.00	6.987E-06	0.00	6.590E-05	0.00	7.022E-06	0.00	7.762E-05	0.00	0.	0.	0.	0.

WAVELENGTH = 10.170374 MICROMETERS

FREQUENCY = 983.248 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.536E-01	0.00	2.683E-01	0.00	4.361E-02	0.00	1.381E-01	0.00	1.834E-02	0.00	5.651E-03	4.839E-03	2.754E-02	2.359E-02
0 - 1	3.288E-01	0.00	1.961E-01	0.00	3.697E-02	0.00	1.036E-01	0.00	1.843E-02	0.00	3.857E-03	3.302E-03	1.735E-02	1.487E-02
1 - 2	1.802E-01	0.00	1.045E-01	0.00	2.758E-02	0.00	6.226E-02	0.00	1.697E-02	0.00	1.683E-03	1.441E-03	5.535E-03	4.782E-03
2 - 3	8.907E-02	0.00	5.677E-02	0.00	2.139E-02	0.00	4.020E-02	0.00	1.421E-02	0.00	7.181E-04	6.148E-04	1.940E-03	1.551E-03
3 - 4	4.342E-02	0.00	3.471E-02	0.00	1.632E-02	0.00	2.757E-02	0.00	1.159E-02	0.00	3.335E-04	2.856E-04	8.475E-04	7.255E-04
4 - 5	2.790E-02	0.00	2.356E-02	0.00	1.235E-02	0.00	1.963E-02	0.00	8.843E-03	0.00	2.077E-04	1.778E-04	3.095E-04	2.650E-04
5 - 6	2.074E-02	0.00	1.815E-02	0.00	9.625E-03	0.00	1.472E-02	0.00	6.624E-03	0.00	1.517E-04	1.299E-04	1.517E-04	1.299E-04
6 - 7	1.558E-02	0.00	1.460E-02	0.00	7.561E-03	0.00	1.074E-02	0.00	4.976E-03	0.00	1.222E-04	1.046E-04	1.222E-04	1.046E-04
7 - 8	1.188E-02	0.00	1.131E-02	0.00	5.888E-03	0.00	8.142E-03	0.00	3.777E-03	0.00	1.196E-04	1.024E-04	1.195E-04	1.024E-04
8 - 9	9.350E-03	0.00	8.609E-03	0.00	4.712E-03	0.00	6.151E-03	0.00	3.082E-03	0.00	1.188E-04	1.017E-04	1.138E-04	1.017E-04
9 - 10	7.066E-03	0.00	6.803E-03	0.00	3.603E-03	0.00	4.625E-03	0.00	2.997E-03	0.00	1.149E-04	9.838E-05	1.149E-04	9.839E-05
10 - 11	5.385E-03	0.00	5.293E-03	0.00	3.283E-03	0.00	4.022E-03	0.00	3.150E-03	0.00	1.099E-04	9.407E-05	1.099E-04	9.407E-05
11 - 12	4.030E-03	0.00	4.051E-03	0.00	3.237E-03	0.00	4.198E-03	0.00	3.280E-03	0.00	1.090E-04	9.331E-05	1.090E-04	9.331E-05
12 - 13	3.101E-03	0.00	3.029E-03	0.00	3.220E-03	0.00	4.099E-03	0.00	3.280E-03	0.00	1.073E-04	9.190E-05	1.073E-04	9.190E-05
13 - 14	2.109E-03	0.00	2.628E-03	0.00	3.195E-03	0.00	4.255E-03	0.00	3.360E-03	0.00	1.020E-04	8.735E-05	1.020E-04	8.735E-05
14 - 15	1.589E-03	0.00	2.731E-03	0.00	3.053E-03	0.00	4.230E-03	0.00	3.257E-03	0.00	9.787E-05	8.380E-05	9.737E-05	8.330E-05
15 - 16	1.115E-03	0.00	2.661E-03	0.00	2.933E-03	0.00	4.052E-03	0.00	3.200E-03	0.00	9.251E-05	7.921E-05	9.251E-05	7.921E-05
16 - 17	8.281E-04	0.00	2.616E-03	0.00	2.834E-03	0.00	4.182E-03	0.00	3.060E-03	0.00	8.967E-05	7.678E-05	8.957E-05	7.573E-05
17 - 18	9.013E-04	0.00	2.646E-03	0.00	2.781E-03	0.00	4.119E-03	0.00	2.888E-03	0.00	8.770E-05	7.509E-05	8.770E-05	7.509E-05
18 - 19	1.148E-03	0.00	2.689E-03	0.00	2.648E-03	0.00	4.053E-03	0.00	2.754E-03	0.00	7.927E-05	6.787E-05	7.927E-05	5.737E-05
19 - 20	1.429E-03	0.00	2.809E-03	0.00	2.545E-03	0.00	4.035E-03	0.00	2.561E-03	0.00	6.250E-05	5.351E-05	6.250E-05	5.351E-05
20 - 21	1.783E-03	0.00	2.886E-03	0.00	2.551E-03	0.00	3.874E-03	0.00	2.444E-03	0.00	4.560E-05	3.904E-05	4.550E-05	3.904E-05
21 - 22	2.184E-03	0.00	3.038E-03	0.00	2.512E-03	0.00	3.877E-03	0.00	2.299E-03	0.00	3.365E-05	2.881E-05	3.356E-05	2.881E-05
22 - 23	2.491E-03	0.00	3.152E-03	0.00	2.463E-03	0.00	3.822E-03	0.00	2.152E-03	0.00	2.552E-05	2.185E-05	2.552E-05	2.185E-05
23 - 24	2.726E-03	0.00	3.460E-03	0.00	2.411E-03	0.00	3.775E-03	0.00	2.132E-03	0.00	1.986E-05	1.701E-05	1.936E-05	1.701E-05
24 - 25	3.009E-03	0.00	3.448E-03	0.00	2.461E-03	0.00	4.021E-03	0.00	1.955E-03	0.00	1.621E-05	1.389E-05	1.621E-05	1.389E-05
25 - 30	3.753E-03	0.00	4.196E-03	0.00	2.346E-03	0.00	4.647E-03	0.00	2.050E-03	0.00	8.651E-06	7.408E-06	8.651E-06	7.408E-06
30 - 35	4.097E-03	0.00	4.582E-03	0.00	2.136E-03	0.00	6.759E-03	0.00	1.736E-03	0.00	2.470E-06	2.115E-05	2.470E-06	2.115E-06
35 - 40	4.118E-03	0.00	4.820E-03	0.00	2.326E-03	0.00	5.385E-03	0.00	1.690E-03	0.00	0.	0.	0.	0.
40 - 45	3.570E-03	0.00	4.378E-03	0.00	2.318E-03	0.00	4.992E-03	0.00	1.491E-03	0.00	0.	0.	0.	0.
45 - 50	2.554E-03	0.00	3.265E-03	0.00	1.816E-03	0.00	3.594E-03	0.00	1.212E-03	0.00	0.	0.	0.	0.
50 - 70	3.380E-04	0.00	4.099E-04	0.00	1.053E-04	0.00	4.162E-04	0.00	3.054E-04	0.00	0.	0.	0.	0.
70 - 100	4.715E-06	0.00	5.333E-06	0.00	5.078E-05	0.00	5.351E-06	0.00	6.045E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.158689 MICROMETERS

FREQUENCY = 984.379 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL			
											CLEAR		HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	4.548E-01	0.00	2.674E-01	0.00	4.039E-02	0.00	1.356E-01	0.00	1.576E-02	0.00	5.658E-03	4.846E-03	2.757E-02	2.351E-02
0 - 1	3.283E-01	0.00	1.940E-01	0.00	3.372E-02	0.00	1.005E-01	0.00	1.580E-02	0.00	3.862E-03	3.307E-03	1.738E-02	1.489E-02
1 - 2	1.776E-01	0.00	1.010E-01	0.00	2.437E-02	0.00	5.869E-02	0.00	1.434E-02	0.00	1.685E-03	1.443E-03	5.592E-03	4.789E-03
2 - 3	8.523E-02	0.00	5.257E-02	0.00	1.830E-02	0.00	3.656E-02	0.00	1.173E-02	0.00	7.190E-04	6.158E-04	1.942E-03	1.664E-03
3 - 4	3.902E-02	0.00	3.052E-02	0.00	1.345E-02	0.00	2.401E-02	0.00	9.348E-03	0.00	3.339E-04	2.860E-04	8.435E-04	7.257E-04
4 - 5	2.389E-02	0.00	1.977E-02	0.00	9.893E-03	0.00	1.643E-02	0.00	6.941E-03	0.00	2.079E-04	1.781E-04	3.099E-04	2.654E-04
5 - 6	1.721E-02	0.00	1.472E-02	0.00	7.508E-03	0.00	1.188E-02	0.00	5.087E-03	0.00	1.519E-04	1.301E-04	1.519E-04	1.301E-04
6 - 7	1.257E-02	0.00	1.158E-02	0.00	5.771E-03	0.00	8.421E-03	0.00	3.746E-03	0.00	1.223E-04	1.048E-04	1.223E-04	1.048E-04
7 - 8	9.390E-03	0.00	8.798E-03	0.00	4.413E-03	0.00	6.241E-03	0.00	2.762E-03	0.00	1.197E-04	1.025E-04	1.197E-04	1.025E-04
8 - 9	7.277E-03	0.00	6.589E-03	0.00	3.457E-03	0.00	6.612E-03	0.00	2.204E-03	0.00	1.190E-04	1.019E-04	1.190E-04	1.019E-04
9 - 10	5.428E-03	0.00	5.138E-03	0.00	2.585E-03	0.00	3.389E-03	0.00	2.094E-03	0.00	1.150E-04	9.853E-05	1.150E-04	9.853E-05
10 - 11	4.086E-03	0.00	3.943E-03	0.00	2.326E-03	0.00	2.908E-03	0.00	2.173E-03	0.00	1.100E-04	9.421E-05	1.100E-04	9.421E-05
11 - 12	3.02[illegible]-03	0.00	2.975E-03	0.00	2.267E-03	0.00	3.030E-03	0.00	2.255E-03	0.00	1.091E-04	9.345E-05	1.091E-04	9.345E-05
12 - 13	2.307E-03	0.00	2.196E-03	0.00	2.283E-03	0.00	2.960E-03	0.00	2.272E-03	0.00	1.075E-04	9.204E-05	1.075E-04	9.204E-05
13 - 14	1.552E-03	0.00	1.897E-03	0.00	2.285E-03	0.00	3.096E-03	0.00	2.368E-03	0.00	1.021E-04	8.748E-05	1.021E-04	8.748E-05
14 - 15	1.158E-03	0.00	1.985E-03	0.00	2.204E-03	0.00	3.101E-03	0.00	2.328E-03	0.00	9.799E-05	8.393E-05	9.799E-05	8.393E-05
15 - 16	8.045E-04	0.00	1.946E-03	0.00	2.136E-03	0.00	2.989E-03	0.00	2.314E-03	0.00	9.263E-05	7.933E-05	9.263E-05	7.933E-05
16 - 17	5.927E-04	0.00	1.924E-03	0.00	2.080E-03	0.00	3.110E-03	0.00	2.236E-03	0.00	8.978E-05	7.690E-05	8.978E-05	7.690E-05
17 - 18	6.474E-04	0.00	1.955E-03	0.00	2.054E-03	0.00	3.080E-03	0.00	2.128E-03	0.00	8.781E-05	7.520E-05	8.781E-05	7.520E-05
18 - 19	8.327E-04	0.00	1.996E-03	0.00	1.964E-03	0.00	3.047E-03	0.00	2.041E-03	0.00	7.937E-05	6.798E-05	7.937E-05	6.798E-05
19 - 20	1.046E-03	0.00	2.095E-03	0.00	1.893E-03	0.00	3.045E-03	0.00	1.905E-03	0.00	6.258E-05	5.360E-05	6.258E-05	5.360E-05
20 - 21	1.316E-03	0.00	2.162E-03	0.00	1.903E-03	0.00	2.930E-03	0.00	1.820E-03	0.00	4.566E-05	3.910E-05	4.566E-05	3.910E-05
21 - 22	1.624E-03	0.00	2.283E-03	0.00	1.876E-03	0.00	2.937E-03	0.00	1.713E-03	0.00	3.369E-05	2.885E-05	3.369E-05	2.885E-05
22 - 23	1.864E-03	0.00	2.376E-03	0.00	1.841E-03	0.00	2.897E-03	0.00	1.603E-03	0.00	2.555E-05	2.189E-05	2.555E-05	2.189E-05
23 - 24	2.046E-03	0.00	2.614E-03	0.00	1.803E-03	0.00	2.865E-03	0.00	1.586E-03	0.00	1.989E-05	1.703E-05	1.989E-05	1.703E-05
24 - 25	2.266E-03	0.00	2.610E-03	0.00	1.840E-03	0.00	3.058E-03	0.00	1.452E-03	0.00	1.623E-05	1.390E-05	1.623E-05	1.390E-05
25 - 30	2.852E-03	0.00	3.200E-03	0.00	1.756E-03	0.00	3.556E-03	0.00	1.527E-03	0.00	8.662E-06	7.419E-06	8.662E-06	7.419E-06
30 - 35	3.158E-03	0.00	3.540E-03	0.00	1.512E-03	0.00	5.235E-03	0.00	1.303E-03	0.00	2.473E-06	2.118E-06	2.473E-06	2.118E-06
35 - 40	3.217E-03	0.00	3.779E-03	0.00	1.787E-03	0.00	4.237E-03	0.00	1.286E-03	0.00	0.	0.	0.	0.
40 - 45	2.824E-03	0.00	3.481E-03	0.00	1.816E-03	0.00	3.986E-03	0.00	1.153E-03	0.00	0.	0.	0.	0.
45 - 50	2.038E-03	0.00	2.620E-03	0.00	1.440E-03	0.00	2.891E-03	0.00	9.518E-04	0.00	0.	0.	0.	0.
50 - 70	2.626E-04	0.00	3.195E-04	0.00	8.221E-05	0.00	3.242E-04	0.00	2.395E-04	0.00	0.	0.	0.	0.
70 - 100	3.509E-06	0.00	3.956E-06	0.00	3.816E-05	0.00	3.973E-06	0.00	4.592E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.147298 MICROMETERS

FREQUENCY = 985.484 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.355E-01	0.00	2.534E-01	0.00	3.575E-02	0.00	1.261E-01	0.00	1.326E-02	0.00	5.665E-03	4.853E-03	2.750E-02	2.355E-02
0 - 1	3.128E-01	0.00	1.824E-01	0.00	2.955E-02	0.00	9.258E-02	0.00	1.323E-02	0.00	3.966E-03	3.312E-03	1.740E-02	1.491E-02
1 - 2	1.671E-01	0.00	9.287E-02	0.00	2.089E-02	0.00	5.287E-02	0.00	1.189E-02	0.00	1.687E-03	1.445E-03	5.599E-03	4.795E-03
2 - 3	7.793E-02	0.00	4.672E-02	0.00	1.533E-02	0.00	3.212E-02	0.00	9.597E-03	0.00	7.199E-04	6.167E-04	1.945E-03	1.666E-03
3 - 4	3.386E-02	0.00	2.613E-02	0.00	1.101E-02	0.00	2.047E-02	0.00	7.501E-03	0.00	3.343E-04	2.864E-04	8.495E-04	7.278E-04
4 - 5	2.002E-02	0.00	1.642E-02	0.00	7.916E-03	0.00	1.364E-02	0.00	5.476E-03	0.00	2.082E-04	1.783E-04	3.103E-04	2.658E-04
5 - 6	1.409E-02	0.00	1.194E-02	0.00	5.934E-03	0.00	9.619E-03	0.00	3.946E-03	0.00	1.520E-04	1.303E-04	1.520E-04	1.303E-04
6 - 7	1.008E-02	0.00	9.256E-03	0.00	4.503E-03	0.00	6.704E-03	0.00	2.874E-03	0.00	1.225E-04	1.049E-04	1.225E-04	1.049E-04
7 - 8	7.399E-03	0.00	6.956E-03	0.00	3.409E-03	0.00	4.891E-03	0.00	2.114E-03	0.00	1.199E-04	1.027E-04	1.199E-04	1.027E-04
8 - 9	5.653E-03	0.00	5.160E-03	0.00	2.663E-03	0.00	3.572E-03	0.00	1.687E-03	0.00	1.191E-04	1.020E-04	1.191E-04	1.020E-04
9 - 10	4.166E-03	0.00	3.981E-03	0.00	1.991E-03	0.00	2.611E-03	0.00	1.623E-03	0.00	1.152E-04	9.868E-05	1.152E-04	9.868E-05
10 - 11	3.099E-03	0.00	3.025E-03	0.00	1.792E-03	0.00	2.238E-03	0.00	1.700E-03	0.00	1.101E-04	9.435E-05	1.101E-04	9.435E-05
11 - 12	2.271E-03	0.00	2.263E-03	0.00	1.762E-03	0.00	2.332E-03	0.00	1.767E-03	0.00	1.092E-04	9.359E-05	1.092E-04	9.359E-05
12 - 13	1.712E-03	0.00	1.657E-03	0.00	1.750E-03	0.00	2.275E-03	0.00	1.769E-03	0.00	1.076E-04	9.218E-05	1.075E-04	9.219E-05
13 - 14	1.137E-03	0.00	1.423E-03	0.00	1.736E-03	0.00	2.364E-03	0.00	1.817E-03	0.00	1.023E-04	8.761E-05	1.023E-04	8.751E-05
14 - 15	8.382E-04	0.00	1.480E-03	0.00	1.659E-03	0.00	2.353E-03	0.00	1.766E-03	0.00	9.811E-05	8.405E-05	9.811E-05	8.405E-05
15 - 16	5.746E-04	0.00	1.444E-03	0.00	1.594E-03	0.00	2.257E-03	0.00	1.737E-03	0.00	9.274E-05	7.945E-05	9.274E-05	7.945E-05
16 - 17	4.195E-04	0.00	1.421E-03	0.00	1.541E-03	0.00	2.333E-03	0.00	1.662E-03	0.00	8.989E-05	7.701E-05	8.939E-05	7.701E-05
17 - 18	4.585E-04	0.00	1.439E-03	0.00	1.512E-03	0.00	2.301E-03	0.00	1.569E-03	0.00	8.791E-05	7.531E-05	8.791E-05	7.531E-05
18 - 19	5.934E-04	0.00	1.465E-03	0.00	1.438E-03	0.00	2.267E-03	0.00	1.494E-03	0.00	7.947E-05	6.808E-05	7.947E-05	6.808E-05
19 - 20	7.497E-04	0.00	1.536E-03	0.00	1.382E-03	0.00	2.259E-03	0.00	1.388E-03	0.00	6.266E-05	5.367E-05	6.266E-05	5.347E-05
20 - 21	9.486E-04	0.00	1.585E-03	0.00	1.386E-03	0.00	2.170E-03	0.00	1.323E-03	0.00	4.571E-05	3.916E-05	4.571E-05	3.[illegible]E-05
21 - 22	1.178E-03	0.00	1.674E-03	0.00	1.365E-03	0.00	2.173E-03	0.00	1.242E-03	0.00	3.373E-05	2.890E-05	3.373E-05	2.890E-05
22 - 23	1.358E-03	0.00	1.745E-03	0.00	1.339E-03	0.00	2.142E-03	0.00	1.160E-03	0.00	2.559E-05	2.192E-05	2.559E-05	2.192E-05
23 - 24	1.495E-03	0.00	1.925E-03	0.00	1.311E-03	0.00	2.120E-03	0.00	1.147E-03	0.00	1.991E-05	1.706E-05	1.991E-05	1.705E-05
24 - 25	1.661E-03	0.00	1.925E-03	0.00	1.338E-03	0.00	2.268E-03	0.00	1.049E-03	0.00	1.625E-05	1.392E-05	1.625E-05	1.392E-05
25 - 30	2.114E-03	0.00	2.381E-03	0.00	1.280E-03	0.00	2.656E-03	0.00	1.108E-03	0.00	8.673E-06	7.430E-06	8.673E-06	7.430E-06
30 - 35	2.379E-03	0.00	2.675E-03	0.00	1.188E-03	0.00	3.967E-03	0.00	9.544E-04	0.00	2.476E-06	2.121E-06	2.475E-06	2.121E-06
35 - 40	2.460E-03	0.00	2.901E-03	0.00	1.342E-03	0.00	3.265E-03	0.00	9.561E-04	0.00	0.	0.	0.	0.
40 - 45	2.189E-03	0.00	2.712E-03	0.00	1.392E-03	0.00	3.120E-03	0.00	8.728E-04	0.00	0.	0.	0.	0.
45 - 50	1.594E-03	0.00	2.062E-03	0.00	1.170E-03	0.00	2.281E-03	0.00	7.320E-04	0.00	0.	0.	0.	0.
50 - 70	1.997E-04	0.00	2.438E-04	0.00	6.283E-05	0.00	2.473E-04	0.00	1.841E-04	0.00	0.	0.	0.	0.
70 -100	2.550E-06	0.00	2.880E-06	0.00	2.801E-05	0.00	2.879E-06	0.00	3.410E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.136200 MICROMETERS

FREQUENCY = 986.563 WAVENUMBERS

HT(KM)	TROPICAL $k_m(km^{-1})$	TROPICAL $\sigma_m(km^{-1})$	MIDLATITUDE SUMMER $k_m(km^{-1})$	MIDLATITUDE SUMMER $\sigma_m(km^{-1})$	MIDLATITUDE WINTER $k_m(km^{-1})$	MIDLATITUDE WINTER $\sigma_m(km^{-1})$	SUBARCTIC SUMMER $k_m(km^{-1})$	SUBARCTIC SUMMER $\sigma_m(km^{-1})$	SUBARCTIC WINTER $k_m(km^{-1})$	SUBARCTIC WINTER $\sigma_m(km^{-1})$	AEROSOL CLEAR $k_a(km^{-1})$	AEROSOL CLEAR $\sigma_a(km^{-1})$	AEROSOL HAZY $k_a(km^{-1})$	AEROSOL HAZY $\sigma_a(km^{-1})$
0	4.282E-01	0.00	2.475E-01	0.00	3.280E-02	0.00	1.215E-01	0.00	1.144E-02	0.00	5.672E-03	4.860E-03	2.754E-02	2.358E-02
0 - 1	3.063E-01	0.00	1.770E-01	0.00	2.678E-02	0.00	8.831E-02	0.00	1.133E-02	0.00	3.871E-03	3.317E-03	1.743E-02	1.493E-02
1 - 2	1.619E-01	0.00	8.833E-02	0.00	1.840E-02	0.00	4.928E-02	0.00	1.003E-02	0.00	1.689E-03	1.447E-03	5.605E-03	4.803E-03
2 - 3	7.358E-02	0.00	4.286E-02	0.00	1.309E-02	0.00	2.908E-02	0.00	7.932E-03	0.00	7.207E-04	6.176E-04	1.947E-03	1.558E-03
3 - 4	3.017E-02	0.00	2.288E-02	0.00	9.080E-03	0.00	1.782E-02	0.00	6.029E-03	0.00	3.347E-04	2.868E-04	8.506E-04	7.238E-04
4 - 5	1.701E-02	0.00	1.375E-02	0.00	6.314E-03	0.00	1.144E-02	0.00	4.290E-03	0.00	2.084E-04	1.786E-04	3.107E-04	2.562E-04
5 - 6	1.158E-02	0.00	9.651E-03	0.00	4.639E-03	0.00	7.773E-03	0.00	3.021E-03	0.00	1.522E-04	1.304E-04	1.522E-04	1.304E-04
6 - 7	8.033E-03	0.00	7.315E-03	0.00	3.456E-03	0.00	5.280E-03	0.00	2.172E-03	0.00	1.226E-04	1.051E-04	1.225E-04	1.051E-04
7 - 8	5.753E-03	0.00	5.408E-03	0.00	2.583E-03	0.00	3.770E-03	0.00	1.595E-03	0.00	1.200E-04	1.028E-04	1.200E-04	1.028E-04
8 - 9	4.316E-03	0.00	3.961E-03	0.00	2.016E-03	0.00	2.714E-03	0.00	1.282E-03	0.00	1.193E-04	1.022E-04	1.193E-04	1.022E-04
9 - 10	3.135E-03	0.00	3.024E-03	0.00	1.520E-03	0.00	1.978E-03	0.00	1.265E-03	0.00	1.153E-04	9.882E-05	1.153E-04	9.882E-05
10 - 11	2.304E-03	0.00	2.281E-03	0.00	1.386E-03	0.00	1.708E-03	0.00	1.359E-03	0.00	1.103E-04	9.448E-05	1.103E-04	9.448E-05
11 - 12	1.674E-03	0.00	1.705E-03	0.00	1.384E-03	0.00	1.795E-03	0.00	1.452E-03	0.00	1.094E-04	9.372E-05	1.094E-04	9.372E-05
12 - 13	1.252E-03	0.00	1.257E-03	0.00	1.394E-03	0.00	1.774E-03	0.00	1.487E-03	0.00	1.077E-04	9.231E-05	1.077E-04	9.231E-05
13 - 14	8.282E-04	0.00	1.094E-03	0.00	1.398E-03	0.00	1.857E-03	0.00	1.542E-03	0.00	1.024E-04	8.774E-05	1.024E-04	8.774E-05
14 - 15	6.073E-04	0.00	1.146E-03	0.00	1.353E-03	0.00	1.871E-03	0.00	1.525E-03	0.00	9.823E-05	8.417E-05	9.823E-05	8.417E-05
15 - 16	4.155E-04	0.00	1.129E-03	0.00	1.316E-03	0.00	1.823E-03	0.00	1.536E-03	0.00	9.285E-05	7.956E-05	9.236E-05	7.955E-05
16 - 17	3.073E-04	0.00	1.122E-03	0.00	1.284E-03	0.00	1.898E-03	0.00	1.490E-03	0.00	9.000E-05	7.712E-05	9.000E-05	7.712E-05
17 - 18	3.414E-04	0.00	1.151E-03	0.00	1.268E-03	0.00	1.894E-03	0.00	1.411E-03	0.00	8.802E-05	7.542E-05	8.802E-05	7.542E-05
18 - 19	4.503E-04	0.00	1.189E-03	0.00	1.216E-03	0.00	1.872E-03	0.00	1.337E-03	0.00	7.956E-05	6.817E-05	7.955E-05	6.817E-05
19 - 20	5.819E-04	0.00	1.255E-03	0.00	1.175E-03	0.00	1.854E-03	0.00	1.227E-03	0.00	6.273E-05	5.375E-05	6.273E-05	5.375E-05
20 - 21	7.438E-04	0.00	1.296E-03	0.00	1.165E-03	0.00	1.767E-03	0.00	1.143E-03	0.00	4.577E-05	3.922E-05	4.577E-05	3.922E-05
21 - 22	9.282E-04	0.00	1.359E-03	0.00	1.131E-03	0.00	1.740E-03	0.00	1.049E-03	0.00	3.377E-05	2.894E-05	3.377E-05	2.894E-05
22 - 23	1.073E-03	0.00	1.401E-03	0.00	1.090E-03	0.00	1.690E-03	0.00	9.579E-04	0.00	2.562E-05	2.195E-05	2.552E-05	2.195E-05
23 - 24	1.180E-03	0.00	1.516E-03	0.00	1.045E-03	0.00	1.655E-03	0.00	9.162E-04	0.00	1.994E-05	1.708E-05	1.994E-05	1.709E-05
24 - 25	1.298E-03	0.00	1.499E-03	0.00	1.046E-03	0.00	1.749E-03	0.00	8.200E-04	0.00	1.627E-05	1.394E-05	1.627E-05	1.394E-05
25 - 30	1.607E-03	0.00	1.806E-03	0.00	9.623E-04	0.00	2.002E-03	0.00	8.239E-04	0.00	8.583E-06	7.440E-05	8.633E-06	7.440E-06
30 - 35	1.780E-03	0.00	2.005E-03	0.00	8.701E-04	0.00	2.964E-03	0.00	6.941E-04	0.00	2.479E-06	2.124E-05	2.479E-06	2.124E-06
35 - 40	1.849E-03	0.00	2.189E-03	0.00	9.907E-04	0.00	2.473E-03	0.00	6.983E-04	0.00	0.	0.	0.	0.
40 - 45	1.664E-03	0.00	2.073E-03	0.00	1.047E-03	0.00	2.396E-03	0.00	6.472E-04	0.00	0.	0.	0.	0.
45 - 50	1.223E-03	0.00	1.591E-03	0.00	8.534E-04	0.00	1.766E-03	0.00	5.516E-04	0.00	0.	0.	0.	0.
50 - 70	1.487E-04	0.00	1.821E-04	0.00	4.703E-05	0.00	1.846E-04	0.00	1.386E-04	0.00	0.	0.	0.	0.
70 -100	1.809E-06	0.00	2.041E-06	0.00	2.008E-05	0.00	2.037E-06	0.00	2.475E-06	0.00	0.	0.	0.	0.

WAVELENGTH = 10.125393 MICROMETERS

FREQUENCY = 987.616 WAVENUMBERS

	TROPICAL		MIDLATITUDE SUMMER		MIDLATITUDE WINTER		SUBARCTIC SUMMER		SUBARCTIC WINTER		AEROSOL CLEAR		AEROSOL HAZY	
HT(KM)	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_m(km^{-1})$	$\sigma_m(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$	$k_a(km^{-1})$	$\sigma_a(km^{-1})$
0	4.225E-01	0.00	2.429E-01	0.00	3.062E-02	0.00	1.179E-01	0.00	1.016E-02	0.00	5.678E-03	4.867E-03	2.757E-02	2.371E-02
0 - 1	3.013E-01	0.00	1.729E-01	0.00	2.477E-02	0.00	8.506E-02	0.00	9.943E-03	0.00	3.876E-03	3.322E-03	1.746E-02	1.495E-02
1 - 2	1.579E-01	0.00	8.492E-02	0.00	1.658E-02	0.00	4.661E-02	0.00	8.681E-03	0.00	1.691E-03	1.449E-03	5.612E-03	4.910E-03
2 - 3	7.028E-02	0.00	4.000E-02	0.00	1.147E-02	0.00	2.685E-02	0.00	6.763E-03	0.00	7.216E-04	6.184E-04	1.949E-03	1.571E-03
3 - 4	2.737E-02	0.00	2.051E-02	0.00	7.727E-03	0.00	1.591E-02	0.00	4.981E-03	0.00	3.351E-04	2.872E-04	8.515E-04	7.299E-04
4 - 5	1.475E-02	0.00	1.185E-02	0.00	5.185E-03	0.00	9.888E-03	0.00	3.482E-03	0.00	2.087E-04	1.788E-04	3.110E-04	2.566E-04
5 - 6	9.711E-03	0.00	8.044E-03	0.00	3.782E-03	0.00	6.506E-03	0.00	2.402E-03	0.00	1.524E-04	1.306E-04	1.524E-04	1.305E-04
6 - 7	6.515E-03	0.00	5.975E-03	0.00	2.790E-03	0.00	4.338E-03	0.00	1.724E-03	0.00	1.228E-04	1.052E-04	1.228E-04	1.052E-04
7 - 8	4.539E-03	0.00	4.366E-03	0.00	2.077E-03	0.00	3.046E-03	0.00	1.310E-03	0.00	1.201E-04	1.030E-04	1.201E-04	1.030E-04
8 - 9	3.333E-03	0.00	3.177E-03	0.00	1.657E-03	0.00	2.188E-03	0.00	1.088E-03	0.00	1.194E-04	1.023E-04	1.194E-04	1.023E-04
9 - 10	2.386E-03	0.00	2.404E-03	0.00	1.293E-03	0.00	1.625E-03	0.00	1.135E-03	0.00	1.155E-04	9.896E-05	1.155E-04	9.895E-05
10 - 11	1.731E-03	0.00	1.809E-03	0.00	1.202E-03	0.00	1.429E-03	0.00	1.260E-03	0.00	1.104E-04	9.461E-05	1.104E-04	9.451E-05
11 - 12	1.248E-03	0.00	1.360E-03	0.00	1.211E-03	0.00	1.506E-03	0.00	1.362E-03	0.00	1.095E-04	9.385E-05	1.095E-04	9.385E-05
12 - 13	9.240E-04	0.00	1.014E-03	0.00	1.212E-03	0.00	1.492E-03	0.00	1.380E-03	0.00	1.079E-04	9.244E-05	1.079E-04	9.244E-05
13 - 14	6.070E-04	0.00	8.862E-04	0.00	1.190E-03	0.00	1.534E-03	0.00	1.377E-03	0.00	1.025E-04	8.786E-05	1.025E-04	8.786E-05
14 - 15	4.403E-04	0.00	9.110E-04	0.00	1.125E-03	0.00	1.519E-03	0.00	1.321E-03	0.00	9.834E-05	8.429E-05	9.834E-05	8.429E-05
15 - 16	2.983E-04	0.00	8.838E-04	0.00	1.067E-03	0.00	1.459E-03	0.00	1.293E-03	0.00	9.295E-05	7.967E-05	9.295E-05	7.967E-05
16 - 17	2.212E-04	0.00	8.651E-04	0.00	1.014E-03	0.00	1.484E-03	0.00	1.214E-03	0.00	9.011E-05	7.723E-05	9.011E-05	7.723E-05
17 - 18	2.460E-04	0.00	8.740E-04	0.00	9.762E-04	0.00	1.452E-03	0.00	1.110E-03	0.00	8.812E-05	7.552E-05	8.812E-05	7.552E-05
18 - 19	3.245E-04	0.00	8.913E-04	0.00	9.163E-04	0.00	1.404E-03	0.00	1.018E-03	0.00	7.965E-05	6.827E-05	7.956E-05	6.827E-05
19 - 20	4.188E-04	0.00	9.247E-04	0.00	8.685E-04	0.00	1.362E-03	0.00	9.104E-04	0.00	6.280E-05	5.383E-05	6.280E-05	5.383E-05
20 - 21	5.314E-04	0.00	9.407E-04	0.00	8.442E-04	0.00	1.278E-03	0.00	8.290E-04	0.00	4.582E-05	3.927E-05	4.532E-05	3.927E-05
21 - 22	6.583E-04	0.00	9.733E-04	0.00	8.080E-04	0.00	1.245E-03	0.00	7.490E-04	0.00	3.381E-05	2.898E-05	3.331E-05	2.898E-05
22 - 23	7.573E-04	0.00	9.941E-04	0.00	7.702E-04	0.00	1.200E-03	0.00	6.762E-04	0.00	2.565E-05	2.198E-05	2.556E-05	2.198E-05
23 - 24	8.290E-04	0.00	1.070E-03	0.00	7.333E-04	0.00	1.170E-03	0.00	6.409E-04	0.00	1.996E-05	1.711E-05	1.995E-05	1.711E-05
24 - 25	9.102E-04	0.00	1.056E-03	0.00	7.303E-04	0.00	1.236E-03	0.00	5.705E-04	0.00	1.629E-05	1.396E-05	1.629E-05	1.396E-05
25 - 30	1.133E-03	0.00	1.278E-03	0.00	6.694E-04	0.00	1.424E-03	0.00	5.710E-04	0.00	8.693E-06	7.451E-06	8.693E-06	7.451E-06
30 - 35	1.279E-03	0.00	1.445E-03	0.00	6.109E-04	0.00	2.146E-03	0.00	4.845E-04	0.00	2.482E-06	2.127E-06	2.432E-06	2.127E-06
35 - 40	1.354E-03	0.00	1.610E-03	0.00	7.114E-04	0.00	1.826E-03	0.00	4.958E-04	0.00	0.	0.	0.	0.
40 - 45	1.238E-03	0.00	1.552E-03	0.00	7.696E-04	0.00	1.802E-03	0.00	4.690E-04	0.00	0.	0.	0.	0.
45 - 50	9.192E-04	0.00	1.205E-03	0.00	6.373E-04	0.00	1.341E-03	0.00	4.070E-04	0.00	0.	0.	0.	0.
50 - 70	1.084E-04	0.00	1.332E-04	0.00	3.446E-05	0.00	1.350E-04	0.00	1.022E-04	0.00	0.	0.	0.	0.
70 -100	1.253E-06	0.00	1.413E-06	0.00	1.407E-05	0.00	1.407E-06	0.00	1.757E-06	0.00	0.	0.	0.	0.